

PRELIMINARY INTERIM MEASURE COMPLETION REPORT

**REMOVAL OF PCB-CONTAINING CAULK
IN CONCRETE PAVEMENTS**

**Boeing Plant 2
Seattle/Tukwila, Washington**

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List of Abbreviations/Acronyms

Abbreviation/Acronym	Definition
Boeing	The Boeing Company
EPA	United States Environmental Protection Agency
Golder	Golder Associates, Inc.
IM	Interim Measure
IM Work Plan	Interim Measure Work Plan: Characterization of Caulk in Concrete Pavements at Boeing Plant 2
NPDES	National Pollutant Discharge Elimination System
PCB	polychlorinated biphenyl
Ppm	parts per million
OA	Other Area
Order	Order on Consent
RCRA	Resource Conservation and Recovery Act
RL	reporting limit
SOPs	Standard Operating Procedures
SWMU	Solid Waste Management Unit

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1.0 INTRODUCTION

The Boeing Company (Boeing) completed the removal of caulk materials containing > 25 ppm PCBs in the concrete pavements in the 2-60s Area at the Plant 2 facility in Seattle/Tukwila, Washington during October and November 2009. The caulk removal was conducted in accordance with the methodology and schedule presented in the Phase 3 Interim Measure Work Plan (Phase 3 IM Work Plan) (Golder 2009b) that was submitted to EPA in June 2009, approved with modifications by EPA in September 2009, and resubmitted in September 2009 to address the required modifications. As indicated in the Phase 3 IM Work Plan, the removal of caulk containing > 25 ppm PCBs in the 2-10 Area will be conducted during the Spring/Summer of 2010, and a final IM Completion Report will be submitted at that time.

The removal of caulk containing > 25 ppm PCBs is the culmination of (and was performed in accordance with) the following suite of work plans:

- Interim Measure Work Plan (IM Work Plan), Characterization of Caulk in Concrete Pavements at Boeing Plant 2, dated August 2007 (Golder 2007a) and approved by EPA in a letter dated October 1, 2007
- Phase 1 Report and Work Plan, Characterization of Caulk in Concrete Pavements at Boeing Plant 2, dated May 2008 (Golder 2008a) and approved by EPA in a letter dated June 16, 2008
- Draft Phase 2 Report and Work Plan, Characterization of Caulk in Concrete Pavements at Boeing Plant, dated October 2008 (Golder 2008e) and approved by EPA in a letter dated February 13, 2009
- Phase 3 Interim Measure Work Plan, Removal of PCB-Containing Caulk in Concrete Pavements, Boeing Plant 2, originally submitted in June 2009, approved with modifications by EPA in a letter dated September 8, 2009, and resubmitted in September 2009 (Golder 2009b)

This work was done in accordance with Administrative Order on Consent (Order) No. 1092-01-22-3008(h) between Boeing and the Environmental Protection Agency (EPA) Region X. The Order is issued pursuant to Section 3008(h) of the Solid Waste Disposal Act, also referred to as the Resource Conservation and Recovery Act (RCRA). The initial IM Work Plan was submitted pursuant to EPA's February 15, 2007 and April 11, 2007 letters, the latter being sent following Boeing's February 26, 2007 letter, and numerous discussions on this subject. In short, EPA required Boeing to identify caulk products containing polychlorinated biphenyls (PCBs) in concrete pavements at the facility with concentrations of PCBs above 1 part per million (ppm). The April 2007 letter specified inclusion of a discussion on the future removal of all caulk with PCB concentrations in excess of 50 ppm and for the stabilization or removal of all caulk with PCB concentrations between 25 and 50 ppm.

In a letter to Boeing dated February 13, 2009, EPA approved the Draft Phase 2 Report and Work Plan. In that letter, EPA strongly encouraged Boeing to evaluate the removal of caulk containing PCB concentrations between 25 and 50 ppm, as opposed to the stabilization and

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long-term monitoring and maintenance of those caulks. Boeing's subsequent evaluation of the removal versus stabilization options led to the conclusion that removal, rather than stabilization, of the caulk containing between 25 and 50 ppm PCBs could be performed effectively at a reasonable cost. As such, Boeing removed all caulk containing > 25 ppm PCBs from the 2-60s Area as documented in this preliminary report, and will perform the removal of such caulk from the 2-10 Area during Spring/Summer 2010.

This report presents a summary of the caulk removal performed during 2009, and provides for context and reference to pertinent data some background information on the full range of related stormwater source control work performed recently at Plant 2.

1.1 Background

Plant 2 is located on 107 acres between the Duwamish Waterway and East Marginal Way South in Seattle and Tukwila, Washington (Figure 1). With the exception of small landscaped areas, the ground surface at Plant 2 is topographically flat and either paved or covered by buildings. Stormwater falling upon pavement or buildings is discharged to the Duwamish Waterway under a National Pollutant Discharge Elimination System (NPDES) and State Waste Discharge General Permit for Stormwater Discharges Associated with Industrial Activities, in compliance with the State of Washington Water Pollution Control Law (Chapter 90.48 RCW) and the Federal Water Pollution Control Act (The Clean Water Act) (Title 33 United States Code, Section 1251 et seq.).

1.2 Description of Plant 2 Pavements and Slabs

Plant 2 was divided into five geographical areas for the purpose of the IM Work Plan (Figure 2). The five geographical areas include the North Area, the 2-10 Area, the 2-40s Area, the 2-60s/2-66 Areas (2-60s Area), and the South Yard. Figure 2 includes estimates of the pavement areas and joint lengths for each of these areas. The surfacing in the North Area comprises an area of approximately 13 acres, and consists primarily of recent asphalt with little or no caulk material. The surfacing in the 2-10, 2-40s, and 2-60s Areas comprises an area of approximately 29 acres, and consists primarily of older, jointed and/or cracked concrete with caulk material in the joints and/or cracks. The surfacing in the South Yard comprises an area of approximately ten acres, and consists primarily of recent asphalt with little or no caulk material. Within these areas a few locations warrant special mention. A small space near the SCL Transformer pad (OA-11) is concrete containing little caulk that will be excavated and replaced with asphalt when that space is remediated; that area was, therefore, not included in the work plan. Some small paved spaces east of the 20-series buildings are comprised of concrete and joint materials constructed in the 1990s; given their recent construction these small spaces were not included in the work plan. Similarly, on the east margin of the 2-10 Area recent refurbishment of the jet fuel tank space included removal and replacement of its original caulk; as such, that small space was also not included in this characterization work (See Figure 2).

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As is described further below, the concrete pavements in the 2-10 and 2-40s Areas and the concrete pavements and slabs in the 2-60s Area were the focus of this IM Work Plan due to the presence, age and nature of the caulk materials in those areas.

1.3 Recent Actions

1.3.1 Caulk Investigations

2005/2006 2-60s Area Investigation

Between October 2005 and April 2006, following identification of PCBs in catch basin solids samples collected in stormlines X and Y, Boeing investigated caulking materials that had been applied to joints in paved roadways and concrete slabs in the drainage area served by Lines X and Y (2-60s Area). The investigation was conducted to provide an indication of whether joint caulk materials may have been a possible source of PCBs. Inspection of these areas revealed multiple applications of a variety of caulk materials used to seal cracks and seams in the roadways and building slabs. Sample locations were selected based on their variability of joint materials and the relative amount of joint material present. Forty-six caulk samples, representative of the numerous types of caulk material (based on appearance) in the area, were collected during that investigation. The visually identifiable physical characteristics of the joint materials were recorded for each sample location, and the samples were sent to an analytical laboratory for testing. Results for PCBs ranged from non-detect (at a reporting limit [RL] of 0.79 ppm) to 40,500 ppm. A summary of the results of the 2005/2006 investigation was presented as Table 1 in Attachment A of the IM Work Plan (Golder 2007a). The PCB concentrations in caulk used in the 2-60s Area concrete pavements were consistently and significantly lower than concentrations in the caulk used in the 2-60 Area building concrete slabs that were left in place temporarily following demolition of their overlying building structures. Additional evaluation of the 2005/2006 data were performed for characterization purposes in support of the Phase 1 investigation in 2007 (see Phase 1 Report and Work Plan, Characterization of Caulk in Concrete Pavements at Plant 2 [Phase 1 Report], dated May 2008 (Golder 2008a)).

Phase 1 Investigation

During 2007, a systematic approach was implemented to develop a baseline characterization of the caulk types in the concrete slabs and pavements in the 2-10, 2-40s, and 2-60s Areas:

- The 2005/2006 caulk data from the 2-60s Area were first reviewed and evaluated to describe and determine caulk physical appearances that could be used to identify those same caulks that may be present elsewhere in the study area. Samples were collected during 2007 at the same locations as most of the 2005/2006 samples to enable closer visual examination of the caulks and standardization of caulk descriptions. Additionally, several duplicate samples were submitted for laboratory analyses in cases where the 2005/2006 analytical data indicated PCB reporting limits (RLs) above 1 ppm that would compromise the use of those earlier results.

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- Caulk sampling and analytical testing were conducted on sixty seven caulk samples from the 2-10 and 2-40s Areas, and four caulk samples from the 2-60s Area. Data from the 2005/2006 and 2007 studies were then reviewed and evaluated with the objective of establishing the visual properties for each distinct caulk type that could in turn be used to systematically identify all caulks and their respective concentrations of PCBs.
- Caulk types were initially evaluated and characterized on the basis of visual properties first separately by area, and then collectively for all three areas.

Careful review of existing data and close examination of caulk material samples resulted in the identification of fifteen types of caulk materials in the pavements of the 2-10, 2-40s, and 2-60s Areas based upon visually identifiable physical properties (appearance and texture). Several of the caulk types were observed in all three areas, but most caulk types were not observed in all three areas. The details and results of the Phase 1 investigation were presented in the EPA-approved Phase 1 Report (Golder 2008a).

Phase 2 Investigation

Detailed mapping of the caulk materials in the concrete joints was performed during 2008 in the 2-10, 2-40s, and 2-60s Areas based upon the visual properties established by the Phase 1 baseline characterization. The mapping was required to identify the specific locations of caulk materials containing > 1 ppm PCBs; to enable an evaluation of recent catch basin and stormwater sampling results versus the areas containing caulk with elevated concentrations of PCBs such that stormwater source control issues could be better understood; and to enable recommendations regarding caulk removal (> 50 ppm PCBs) or stabilization (> 25 ppm and ≤ 50 ppm PCBs) actions. Two additional variations of a previously identified caulk material were discovered during the mapping process; those additional types were mapped, sampled, tested for PCBs, and characterized per the baseline characterization process.

A total of 107 additional caulk samples were collected in the 2-10, 2-40s, and 2-60s Areas during the Phase 2 investigation, and resulted in the identification of a total of 17 types of caulk materials in the pavements of the 2-10, 2-40s, and 2-60s Areas based upon visually identifiable physical properties (appearance and texture). Additionally, subsets of three of the seventeen caulk types were developed based upon ranges of PCB concentrations.

The EPA-approved Draft Phase 2 Report and Work Plan (Golder 2008e) reported the results of the caulk investigations of the concrete pavements and slabs in the 2-10, 2-40s, and 2-60s Areas at Plant 2, and included the analytical results for 224 samples of caulk materials that were collected and analyzed for PCBs during the 2005/2006, Phase 1, and Phase 2 investigations. Detailed mapping of the 17 caulk types was performed. The maps were included in the Phase 2 Report and Work Plan and are attached herein as Figures 3, 4, and 5.

PCB concentration ranges were designated for each of the 17 caulk types identified. Three of the caulks, Types 1A, 1C, and 4A, were divided into subsets based on varying ranges of PCBs detected in those materials. Including the subset caulks, 21 caulk categories were identified

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based upon PCB concentration ranges and physical characteristics, as presented in the Draft Phase 2 Report and Work Plan (Golder 2008e). The caulk types and/or subsets designated as containing PCB concentrations above 25 ppm included the following:

- Type 1A2: > 50 ppm, 1220 linear feet
- Type 1A3: > 25 ppm & ≤ 50 ppm, 797 linear feet
- Type 1C2: > 25 ppm & ≤ 50 ppm, 723 linear feet
- Type 4A2: > 25 ppm & ≤ 50 ppm, 1445 linear feet

In the Draft Phase 2 Report and Work Plan Golder (2008e), Boeing proposed the removal of the above caulk materials containing > 50 ppm PCBs and the stabilization of the caulk materials containing > 25 ppm & ≤ 50 ppm PCBs, in accordance with EPA's April 2007 letter.

Phase 3 IM Work Plan

In accordance with EPA's February 2009 letter, Boeing proposed the removal of all caulk materials containing > 25 ppm PCBs, as opposed to removing only those caulks containing > 50 ppm PCBs and stabilizing those caulks containing > 25 ppm and ≤ 50 ppm PCBs per EPA's April 2007 letter. Caulk materials containing > 25 ppm PCBs were located in the 2-10 and 2-60s Areas, whereas no caulks containing > 25 ppm PCBs were located in the 2-40s Area. The methodology, schedule, and standard operating procedures for the removal of the caulk containing > 25 ppm PCBs was proposed by Boeing and approved with modifications by EPA in September 2009.

Due to seasonal weather constraints and the timing of EPA approval, the caulk removal was scheduled in two phases as follows:

- Fall 2009 – Removal of caulk containing > 25 ppm PCBs from 2-60s Area concrete (Figure 7)
- Spring/Summer 2010 – Removal of caulk containing > 25 ppm PCBs from 2-10 Area (Figure 6)

The plan for the Fall 2009 removal of approximately 2,660 linear feet of caulk from the 2-60s Area included the following quantities and caulk types:

- 1,145 linear feet of Type 1A caulk
- 1,455 linear feet of Type 4A caulk
- 60 linear feet of Type 1C caulk

The plan for the Spring/Summer 2010 removal of 1,545 linear feet of caulk from the 2-10 Area included the following quantities and caulk types:

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- 875 linear feet of Type 1A caulk
- 670 linear feet of Type 1C caulk

1.3.2 Past Construction and Removal Activities

In March 2006, installation of a temporary stormwater collection and treatment system was completed to replace the drainage capacity of storm lines X and Y. Sampling and analytical testing previously indicated that catch basin solids in lines X and Y contained elevated concentrations of PCBs and metals (Floyd|Snider 2005). This construction activity included the temporary sealing at the surface of all the catch basins and manholes on the X and Y lines to remove those lines from service, and the installation of new drains, lines, asphalt swales and a modern treatment vault which collects solids and stormwater and conveys stormwater into storm line Z. Line Z is immediately south of the X and Y lines. In October 2006 following a video survey, the catch basins and manholes on the X and Y lines in the area of the 2-66 slab were backfilled with controlled density fill (CDF) and the accessible outfalls for those lines were sealed at the waterway. In May 2007, Boeing completed the removal of the X and Y lines from the 2-60s Area (east of the 2-66 slab), as documented in the EPA-approved Interim Measure Completion Report, Removal of Stormwater Lines X & Y (OA 23.1 and OA 23.2) in 2-60s Area at Boeing Plant 2, dated May 2008 (Golder 2008b). Additionally, Building 2-64 was demolished in May 2007 and its foundations and immediately-adjacent pavements were removed and replaced with asphalt surfacing.

As a result of the removal of those portions of the X and Y storm lines and the demolition of Building 2-64, caulks at the locations of five of the caulk samples collected in the 2-60s Area during 2005/2006 were removed. These five caulk samples had PCB concentrations ranging from non-detect (at an RL of 0.8 ppm) to 740 ppm. Additionally, all caulk represented by three samples containing PCB concentrations ranging from 29,300 ppm to 40,500 ppm were previously removed by Boeing from a single equipment foundation on the Building 2-65 slab (see Figure 5).

1.3.3 Stormwater Sampling

Given the possible association between the caulk at Plant 2 as a potential source of PCBs and the PCB concentrations detected in the stormwater system solids, it is appropriate to consider information regarding stormwater source control sampling. Accordingly, and to further investigate concentrations of PCBs and metals detected in catch basin solids during the 2005 survey of the Plant 2 stormwater system, Boeing and EPA initiated an annual stormwater source control sampling program to evaluate the potential for active stormwater lines at Plant 2 to convey hazardous substances to the Duwamish Waterway via stormwater discharges. To address EPA's requirements for this work identified in a May 26, 2006 letter, the Stormwater Source Control Work Plan for Boeing Plant 2 (Golder, 2006) was drafted and then approved in October, 2006. That work plan established a source control sampling program consisting of one-time or annual sampling and analysis of suspended solids and/or water along 12 of the 24 active stormwater lines at Plant 2 during the rainy season (approximately October to March). Source control sampling results are compared to action levels established in the work plan, and

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action level exceedences trigger further actions such as additional monitoring, source identification and/or source elimination work.

The first round ("round 1") of source control sampling was conducted between October 2006 and April 2007, and the round 1 sampling report (Golder, 2007b) was approved by EPA in October 2007. Round 2 sampling was conducted between October 2007 and May 2008 in accordance with the Revised Stormwater Source Control Work Plan for Boeing Plant 2 (Golder, 2007c). The round 2 sampling report was submitted to EPA in May 2008, conditionally approved with comments by EPA in August, 2008, and resubmitted for final approval in September, 2008 (Golder 2008d). A draft Round 3 sampling report (Golder 2009a) was submitted to EPA in July 2009. Annual source control sampling will continue until baseline conditions have been established, and appropriate source control actions have been identified, completed, and verified.

1.3.4 2008 Stormwater System Sampling and Cleaning

Boeing submitted to EPA the 2008 Stormwater Source Control Interim Measure Work Plan for Boeing Plant 2 (Golder 2008c) in May 2008. The work plan was approved by EPA in a letter received by Boeing on July 2, 2008. In accordance with the work plan, Boeing implemented an interim measure on five storm lines (A, B, I, J, and Z) in the Plant 2 stormwater system during the summer and fall of 2008 to address action level exceedences identified during the first two rounds of stormwater source control sampling. The 2008 IM consisted of:

- Visually inspecting all accessible catch basins and collecting 494 solids samples from 364 locations to assess potential entry points for PCBs and metals
- Cleaning 417 catch basins and structures based on the analytical results and the visual inspections
- Cleaning more than 5 miles of storm lines and removing approximately 117 cubic yards of legacy solids that may have been ongoing sources of PCBs and metals detected during source control sampling
- Conducting a video survey in more than 3 miles of storm lines to assess the integrity of the pipes and evaluate the cleaning effectiveness
- Installing 287 geotextile filter fabric inserts at all accessible catch basins and inlets to reduce the volume of solids entering the storm system

The IM removed legacy residual solids material from the storm system that may have been a source of PCBs and metals detected during the first two rounds of stormwater source control sampling, and implemented controls to reduce future solids accumulation in the system. All details and results of the IM were presented in the Interim Measure Completion Report, 2008 Stormwater Source Control Catch Basin Sampling and Stormline Cleaning for Boeing Plant 2 (Golder 2009c), dated October 2009 and approved by EPA in a letter dated November 18, 2009.

1.3.5 2009 Catch Basin Insert Sampling and Cleaning

Boeing collected solids samples from geotextile surface inserts in catch basins on storm lines B, I, J, and Z during October and November 2009 in an ongoing effort to identify sources of PCBs that have been detected in the stormwater system at Plant 2. Boeing also cleaned or replaced the geotextile inserts in the catch basins, and assessed the extent of accumulation in the underlying catch basin bottoms. The work was performed in accordance with the Technical Memorandum, Fall 2009 Source Control Actions (Golder 2009d), submitted to EPA on October 15, 2009. In December 2009, cleaning was completed in the containment area around the Jet-A fuel tanks near the east end of storm line B where elevated PCB concentrations have previously been detected in the stormwater system.

Following the receipt of all analytical results for the catch basin insert sampling, and assessment of the data, a Technical Completion Memorandum summarizing the work and the results will be prepared and submitted to EPA.

2.0 PURPOSE OF INTERIM MEASURE

The purpose of this IM was to first determine and map the concrete joint locations of caulk materials containing PCB concentrations above 1 ppm, and to then remove those caulk materials containing > 25 ppm PCBs. The removal of the identified materials containing > 25 ppm PCBs is being performed as a function of source control to preclude the migration of such materials to the Duwamish Waterway.

A phased approach has been used to identify and then remove caulk materials containing PCBs in excess of 25 ppm:

- Phase 1 provided a baseline characterization of caulk materials and included correlation of caulk physical properties (i.e., appearance and texture) to PCB concentrations in the caulk. The characterization was presented in the Phase 1 Report (Golder 2008a), which established the visual properties and sampling approach to be used during the Phase 2 investigation to categorize and map all caulks relative to their ranges of PCB concentrations.
- Phase 2 included: 1) sampling and testing of newly-observed caulk types that were not previously identified, 2) additional sampling and testing of two previously identified caulk types that exhibited wide ranges of PCB concentrations, 3) detailed mapping of all of the caulks characterized during Phase 1 and Phase 2 of this IM Work Plan, and 4) proposing actions for caulk materials containing PCB concentrations > 25 ppm.
- Phase 3 included: 1) methodology for the removal of caulk materials containing > 25 ppm PCBs, and 2) a schedule for the removal of the subject caulk materials.
- Removal Phase includes: 1) Fall 2009 removal of 2-60s Area caulk materials identified as containing > 25 ppm PCBs, removal of two inches of soil from beneath the joint that contained the subject caulk, and backfilling of the caulk removal slot with controlled density fill (CDF) or concrete, and 2) Spring/Summer 2010 removal of 2-10 Area caulk materials identified as containing > 25 ppm PCBs, removal of two inches of concrete from beneath the joint that contained the subject caulk, and replacement of the caulk with new joint sealant material.

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3.0 FALL 2009 CAULK REMOVAL, 2-60s AREA

During October and November 2009, approximately 2,660 linear feet of caulk materials containing > 25 ppm PCBs were removed from the concrete slabs in the 2-60s Area of Plant 2, and two inches of soil under the caulked joints were removed in accordance with the Phase 3 IM Work Plan (Golder 2009b). The removal areas are shown on Figure 7. Controls were implemented during the removal to contain and prevent the release of PCB contaminants to the environment, as prescribed by the methodology and Standard Operating Procedures (SOPs) included in the Phase 3 IM Work Plan. Quality Assurance Field Sheets were completed on a daily basis, and are appended in electronic format, along with photographs and field notes in Appendices B, A, and C respectively on the compact disk (CD) attached to this report.

3.1 2-60s Area Slab and Joint Configurations

The 2-60s Area concrete slabs formed the indoor floors of 1950s-era buildings that were primarily used for manufacturing and storage. The configuration between adjacent approximately 6-inch thick concrete floor panels in the 2-60s Area consists of a caulked joint that generally ranges in width from 1/8 to 1/2 inch, and fully penetrates the thickness of the concrete slabs (~6 inches), as shown in Sketch 1 below. A similar configuration exists in the joint between floor slabs and the much thicker perimeter curbs, footings, stem walls, or grade beams, as shown in Sketch 2 below

3.2 Sawcutting

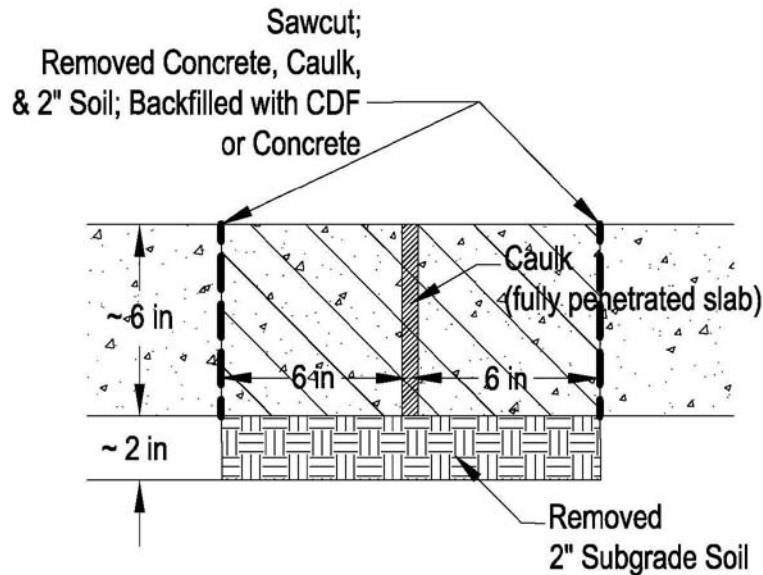
As a result of the configuration of the caulked joints in the 2-60s Area, caulk removal required sawcutting through the full thickness of the concrete (approximately 6 inches), on both sides of the joints (approximately 6 inches from the caulk joints), per Sketch 1. In the case of perimeter joints between floor panels and curbs, footings, stem walls, or grade beams, the floor concrete was sawcut at a distance of approximately 12 inches from the perimeter structure, per Sketch 2.

Prior to starting work, catch basins located within 25 feet of the work areas were blocked using plastic sheeting and sandbags to prevent liquid or solid wastes from entering the stormwater system.

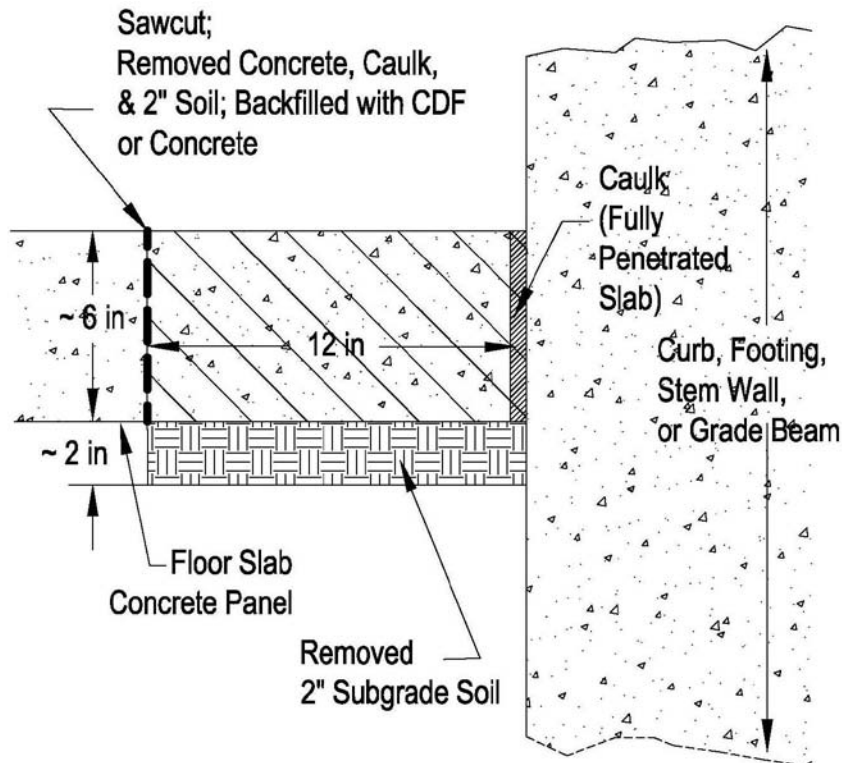
Two sawcutting machines were used to expedite the work. The first machine made a shallow cut in the concrete, to provide a notched guide for the second machine that cut through the full depth of the concrete. Drum vacuums were used to remove the sawcutting slurry almost immediately as it was generated. Drummed slurry was appropriately managed for disposal.

Sawcutting in advance of caulk-concrete removal was typically limited to one or two days in advance of the removal, to reduce exposure of the sawcut slots to weather and runoff. A pavement breaker or jack hammer was used in conjunction with or in place of a sawcutting machine in areas where the joint, concrete, or footing configurations did not accommodate the sole use of sawcutting machines. In such cases, concrete chips were cleaned-up almost immediately, using brooms and vacuums.

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Sketch 1: Section of Typical Interior Joint in Concrete Slab in 2-60s Area
(not to scale)



Sketch 2: Section of Typical Perimeter (Exterior) Joint in Concrete Slab in 2-60s Area
(not to scale)

3.3 Caulk-Concrete Removal

As the sawcutting progressed, the resulting 12-inch wide by 6-inch thick concrete and caulk segments were then removed using a small excavator. A few of the caulked joints contained lengths of caulk with PCB concentrations > 25 ppm and alternating lengths of caulk with PCB concentrations < 25 ppm. In such cases, both caulks were removed when the efficiency of the sawcutting and removal operations dictated such action. At perimeter joints, manual scraping and pneumatic scabbling were used as needed to remove adhered caulk from the perimeter curb, footing, stem wall or grade beam. Two inches of soil beneath the bottom of the caulk were then removed manually using shovels, and caulk or concrete chips adjacent to the removal slot were cleaned-up using brooms. The removed caulk, concrete and soil were placed in roll-off containers and appropriately managed for disposal. A total of approximately 2,660 linear feet of caulk containing > 25 ppm PCBs were removed from the 2-60s Area concrete slabs.

At the 2-63 slab, following a period of rainy weather, saturated subgrade soil was discovered when the caulk-concrete was removed. Water had likely seeped to the subgrade through cracked concrete slabs or nearby utility pits. The wet soil in the removal slot was overexcavated and replaced with clean, granular fill prior to backfilling the slot with CDF.

The concrete adjacent to each removal slot was washed with water using a low pressure sprayer, and manually scrubbed using brushes. The spray water was aimed away from the removal slot during washing to prevent the entry of the wastewater into the slot. The wastewater was collected using a drum vacuum, and the drummed liquid was appropriately managed for disposal.

Plastic sheeting and sandbags were used as needed to protect the removal slots from adverse weather until such time that the slots were backfilled with CDF or concrete.

3.4 Backfilling

The caulk-concrete removal slots were backfilled with CDF or concrete. The slots were typically backfilled within one or two days of the caulk-concrete removal, and many were backfilled the same day as the caulk-concrete removal. Approximately 105 cubic yards of CDF and concrete were used to backfill the caulk-concrete removal slots.

3.5 Decontamination

All non-disposable equipment and tools were decontaminated before they were allowed to be removed from the jobsite. Decontamination water was drummed and appropriately managed for disposal.

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4.0 DEVIATIONS

No deviations from the Phase 3 IM Work Plan occurred during the removal of caulk-concrete from the 2-60s Area slabs. Concrete rather than CDF was used to backfill many caulk removal slots, primarily at the 2-66 and 2-65 slabs where salvage equipment and vehicles are being temporarily stored. The concrete was used to provide for a quicker set time and higher strength than could have been achieved using CDF.

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5.0 SUMMARY

5.1 2009 Caulk Removal

Approximately 2,660 linear feet of caulk containing > 25 ppm PCBs were removed from the concrete in the 2-60s Area of Plant 2 during October and November 2009 as a function of source control to preclude the migration of the materials to the Duwamish Waterway. Two inches of soil beneath the bottom of the caulked joints were also removed. The removal slots in the concrete slabs were backfilled with CDF or concrete to seal the slots against the entry of surface runoff.

5.2 2010 Caulk Removal

The removal of approximately 1,545 linear feet of caulk containing > 25 ppm PCBs in the 2-10 Area is scheduled for Spring/Summer 2010. The removal of the caulk in the 2-10 Area will require the subsequent installation of a replacement caulking compound in the affected concrete joints, and drier and warmer weather is required for that work.

5.3 IM Completion Report

An IM Completion report will be submitted to EPA within 30 days of completion of the 2010 caulk/concrete removal and replacement. The contents of the completion report will include:

- Introduction
- Purpose of IM
- Description of Work Completed
- Deviations
- Summary
- References
- Attachments
 - Figures
 - Field Notes (Daily QA Field Sheets)
 - Photos

Preliminary IM Completion Report
Removal of PCB-Containing Caulk in Concrete Pavements

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Preliminary IM Completion Report
Removal of PCB-Containing Caulk in Concrete Pavements

6.0 SCHEDULE

The removal of caulk containing > 25 ppm PCBs in the 2-10 Area will be conducted during Spring/Summer 2010 when drier weather prevails. A final IM Completion Report will be submitted within 30 days of the completion of 2-10 Area caulk removal, as indicated below.

Description	Date
Submit Preliminary Completion Report	By December 14, 2009
Complete Removal Actions in the 2-10 Area.	Spring/Summer 2010
Submit IM Completion Report.	30 days after completion of 2010 removal activities.

Preliminary IM Completion Report
Removal of PCB-Containing Caulk in Concrete Pavements

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Preliminary IM Completion Report Removal of PCB-Containing Caulk in Concrete Pavements

7.0 REFERENCES

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Floyd|Snider. 2005. Memorandum: Summary of Recent Storm System Solids Survey and Source Control Sampling at Plant 2. November.

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Preliminary IM Completion Report
Removal of PCB-Containing Caulk in Concrete Pavements

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Golder Associates Inc., 2008d. Stormwater Source Control Round 2 Sampling Report, 2007-2008, September.

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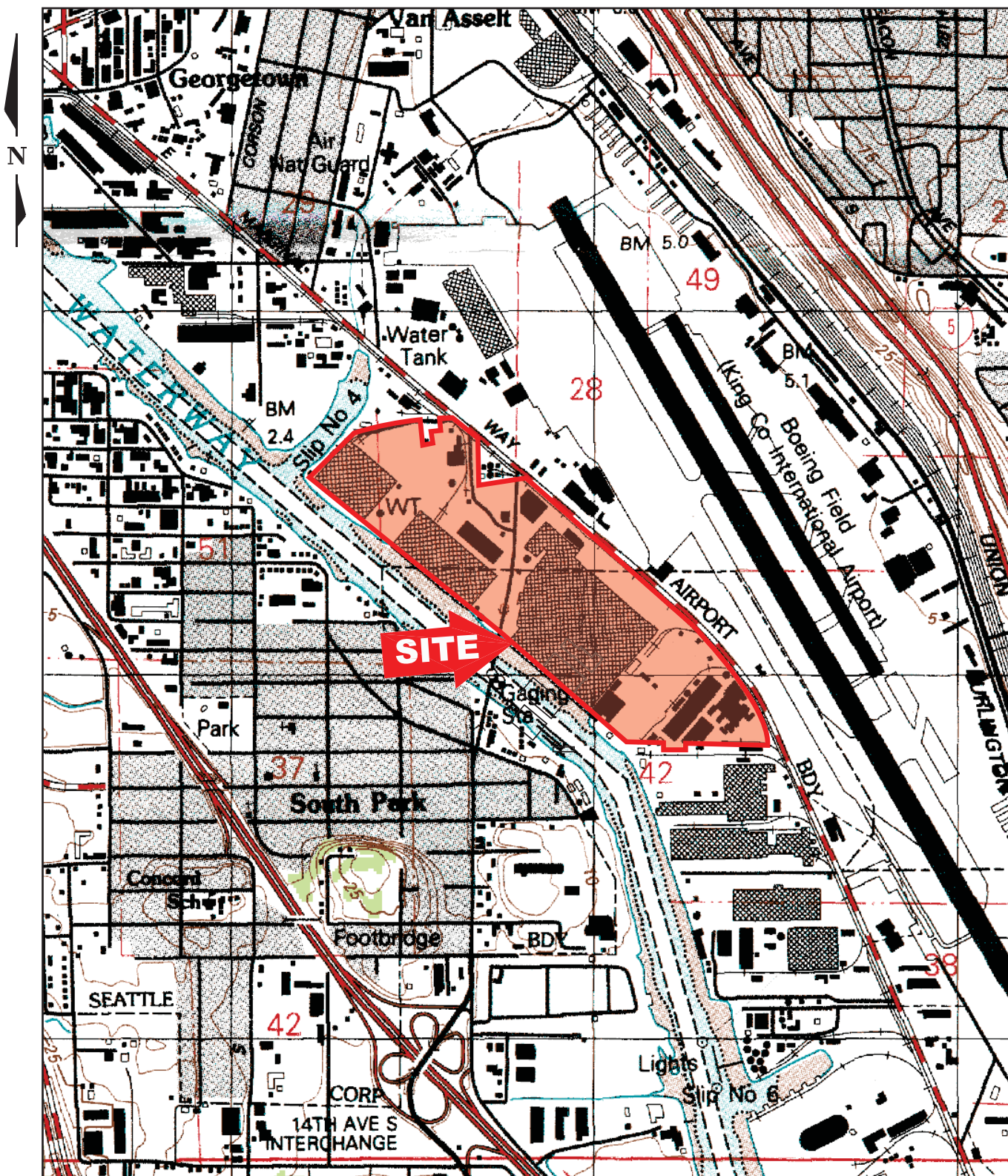
Golder Associates Inc., 2009c. Interim Measure Completion Report, 2008 Stormwater Source Control Catch Basin Sampling and Storm Line Cleaning for Boeing Plant 2, October.

Golder Associates Inc., 2009d. Technical Memorandum, Fall 2009 Source Control Actions, October.

FIGURES

Preliminary IM Completion Report
Removal of PCB-Containing Caulk in Concrete Pavements

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Interim Measure Work Plan
Removal of PCB-Containing Caulk
In Concrete Pavements
Boeing Plant 2

Figure 1
Vicinity Map

SHEET	DRAWN BY	REVIEWED BY	DATE
1 of 1	SAM	SAM	12/03/09

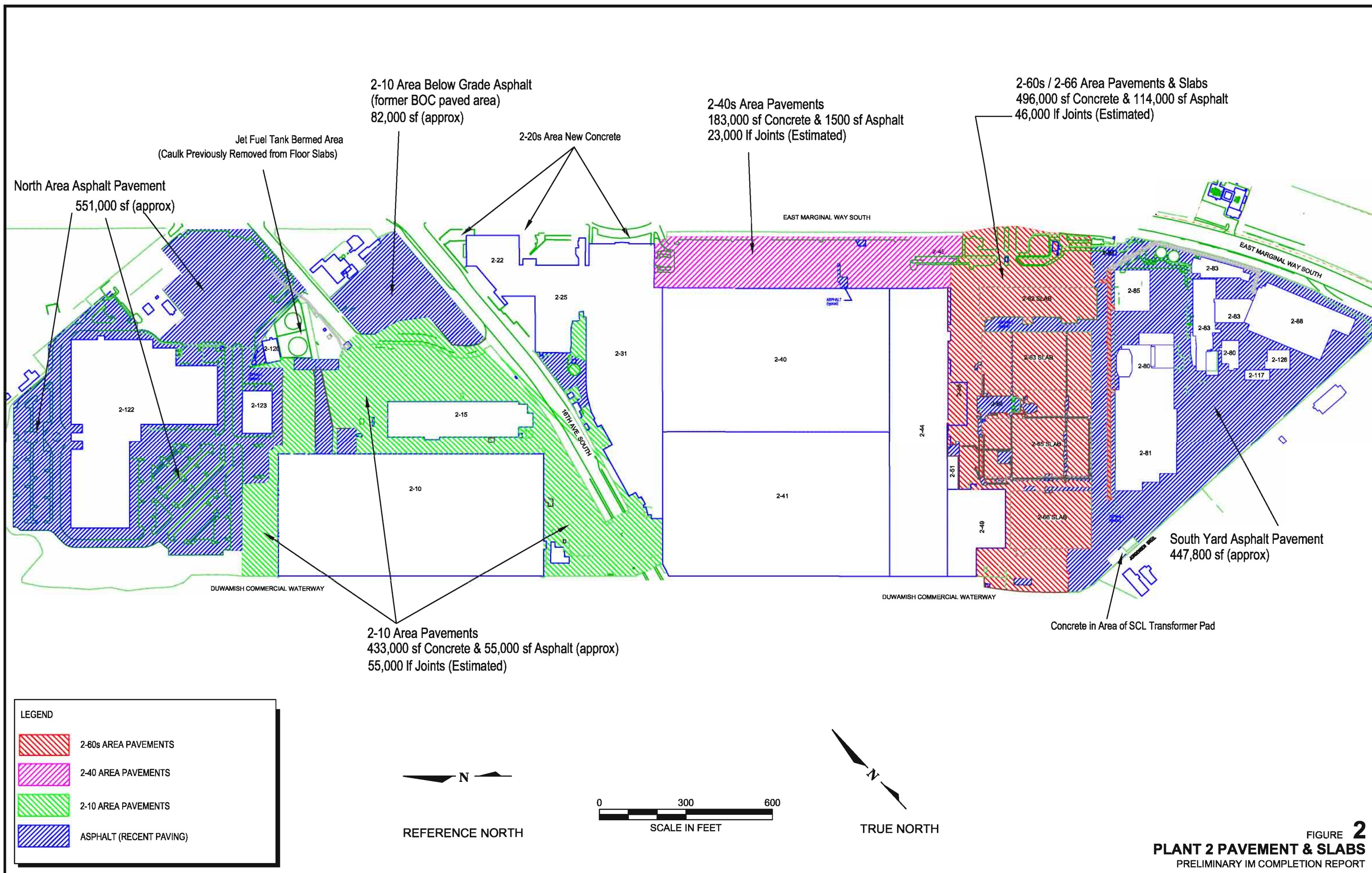
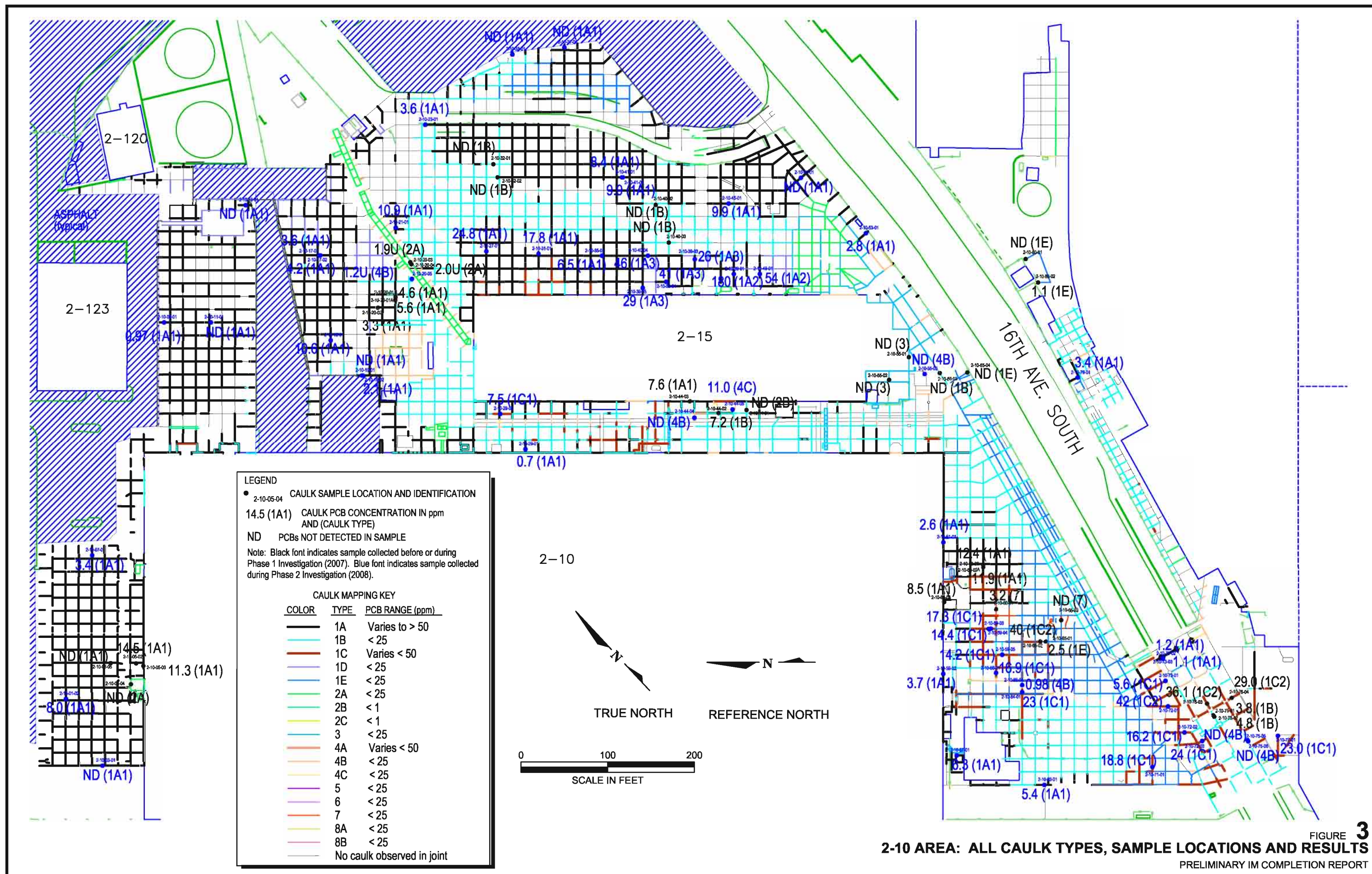
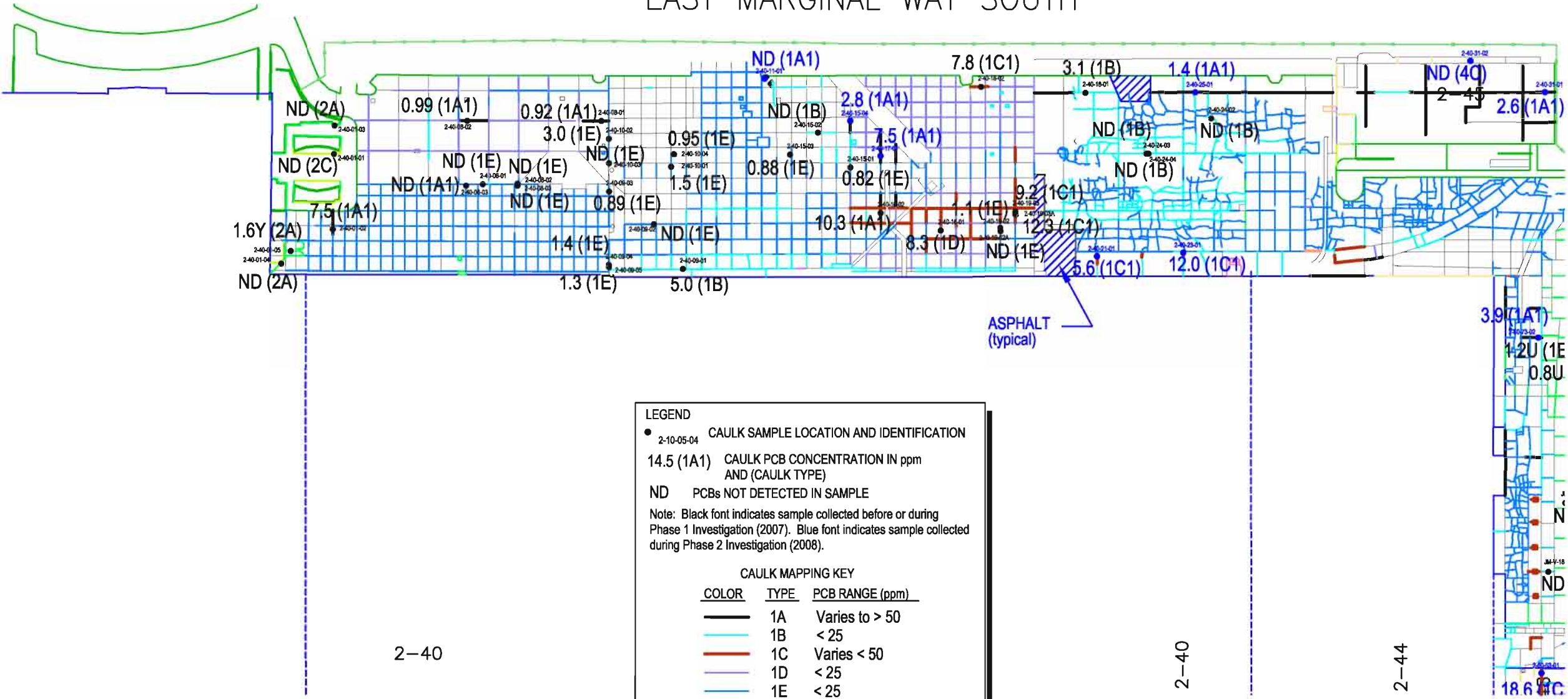


FIGURE **2**
PLANT 2 PAVEMENT & SLABS
PRELIMINARY IM COMPLETION REPORT



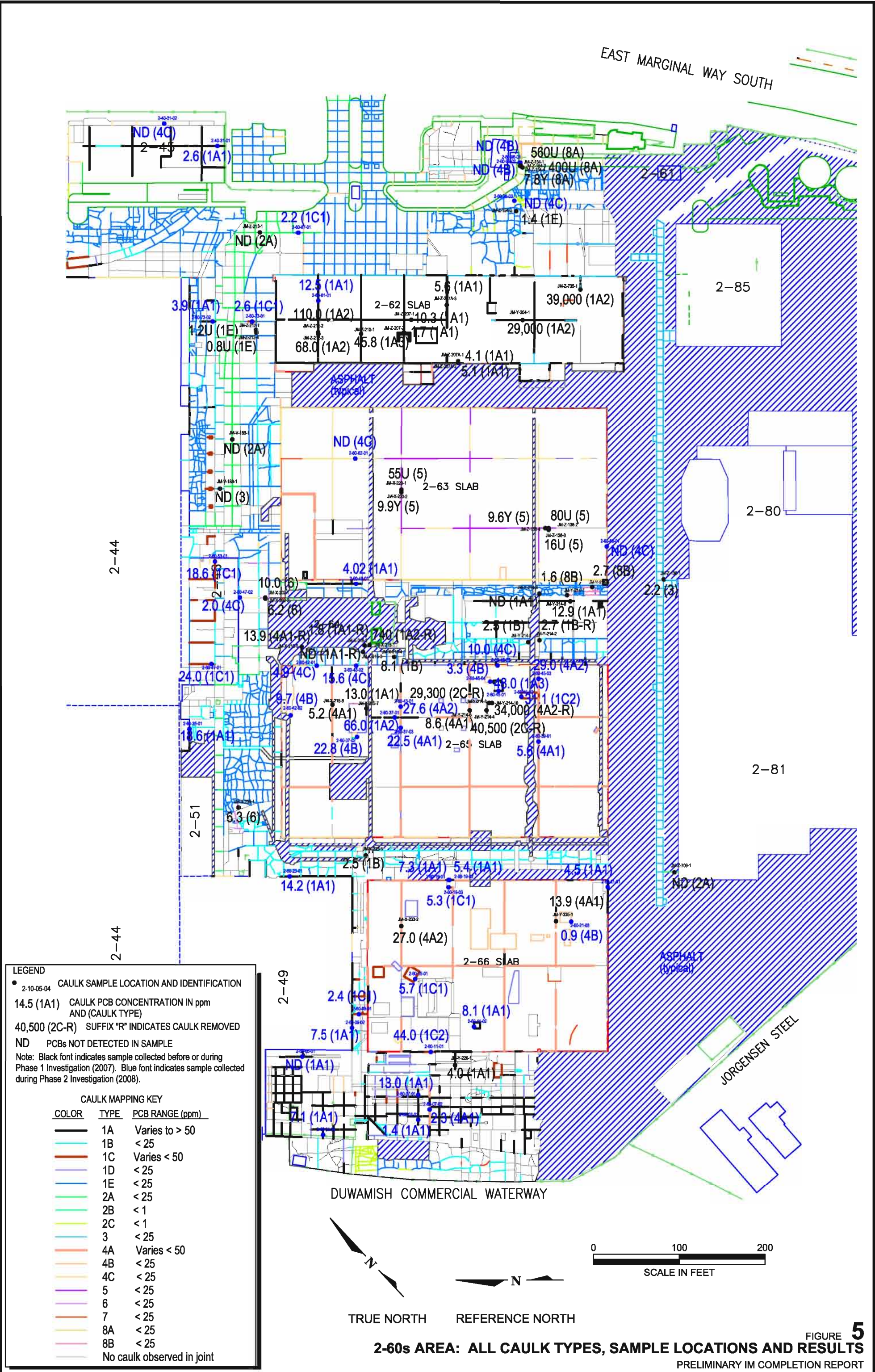
EAST MARGINAL WAY SOUTH

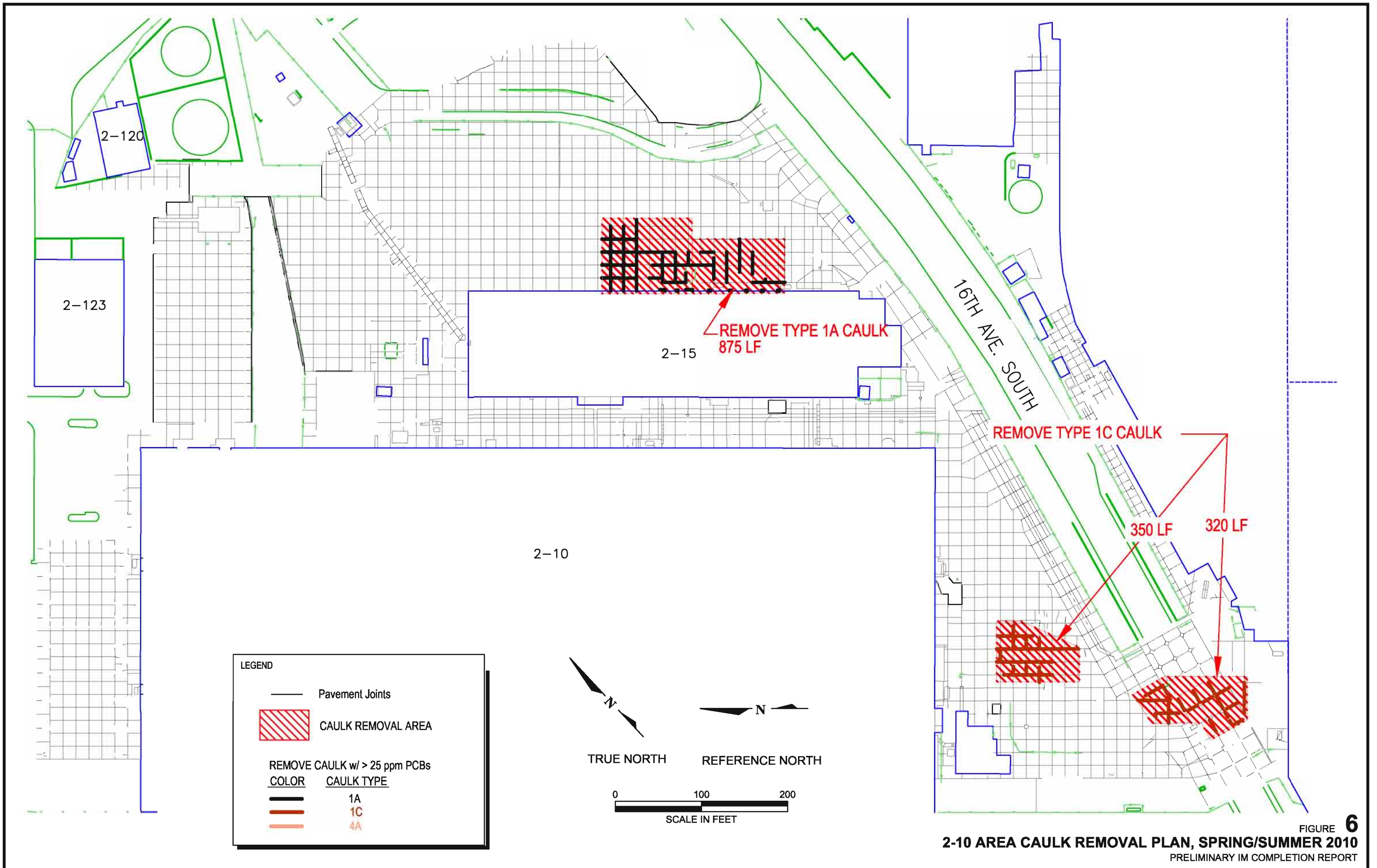


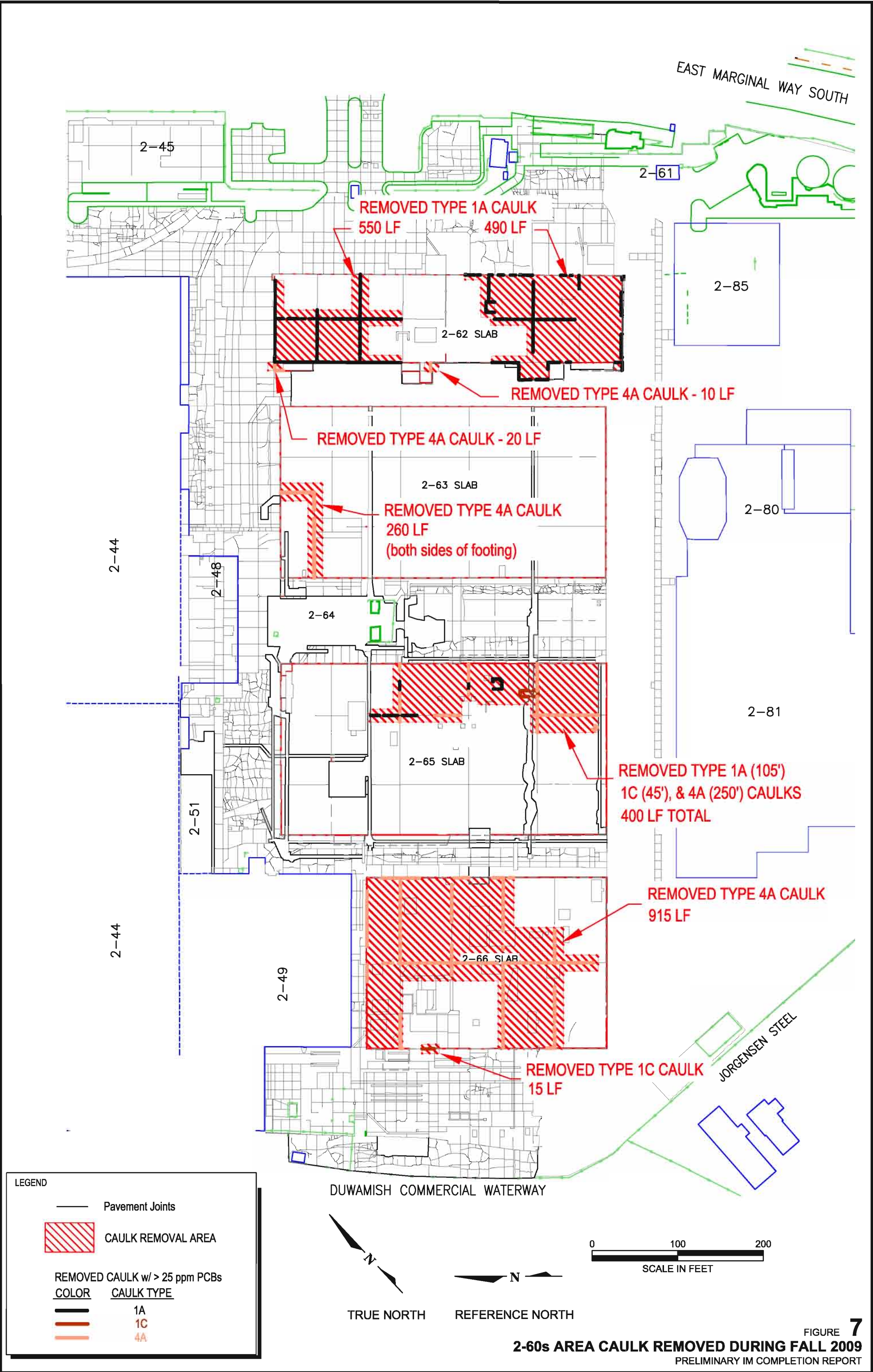
0 100 200
SCALE IN FEET



FIGURE 4
2-40s AREA: ALL CAULK TYPES, SAMPLE LOCATIONS AND RESULTS
PRELIMINARY IM COMPLETION REPORT







Preliminary IM Completion Report
Removal of PCB-Containing Caulk in Concrete Pavements

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APPENDIX A
REMOVAL PHOTOGRAPHS

Preliminary IM Completion Report
Removal of PCB-Containing Caulk in Concrete Pavements

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Preparing caulk-concrete removal slot for CDF backfill placement



Preparing caulk-concrete removal slot for CDF backfill placement



Caulk-concrete removal slot prepared for CDF placement



Caulk-concrete removal slot prepared for CDF placement



Using a pneumatic scabbler to remove adhered caulk from perimeter footing



Pneumatic scabbler used to removed adhered caulk from perimeter footing



Placing CDF backfill in caulk-concrete removal slot



Placing CDF backfill in caulk-concrete removal slot



Pavement breaker used when joint or concrete configurations did not allow use of sawcutting machines

Preliminary IM Completion Report
Removal of PCB-Containing Caulk in Concrete Pavements

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APPENDIX B

DAILY QUALITY ASSURANCE FIELD SHEETS

Preliminary IM Completion Report
Removal of PCB-Containing Caulk in Concrete Pavements

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DAILY QUALITY ASSURANCE FIELD SHEET

**Boeing Plant 2
Removal of Caulk Containing > 25 ppm PCBs**

Date 10/20/09 Weather cloudy, calm 55°F @ 1230
 Start Time 0830 End Time 1430
 Contractors Onsite Glacier, Golder, APS (1300-1345)
 Visitors- Boeing: J. Parsons, J. Flaherty
 Plant 2 Area 2-62 Bldg Specific Area Location west half north stem wall

Work Performed

- ☒ **Paint Removal**
 Sawcutting - Linear ft of Joint(s) 551 ft (110 sf)
☐ Slurry/Water Controlled and Collected? none
 Method used hand scabblers and scrapers to remove paint
- ☐ **Initial Caulk/Concrete Removal - Linear ft of Joints**
 Method _____
- ☐ **Remaining Caulk Removal**
- | | |
|--|-----------------------------------|
| <input type="checkbox"/> Sawcutting | <input type="checkbox"/> Washing |
| <input type="checkbox"/> Scraping | <input type="checkbox"/> Grinding |
| <input type="checkbox"/> Other - Describe _____ | |
| <input type="checkbox"/> Barriers Required? - Describe _____ | |
- ☐ Slurry/Water and Solids controlled and collected? _____
 Method _____
- ☐ **New Caulk Installed (2-10 Area Only) - Linear ft** _____
- ☐ **CDF Backfill (2-60s Area Only) - Linear ft / Cubic Yards** _____
- ☒ **Daily Clean-up**
 Method vacuum / brooms used to collect paint chips placed in 55 gal drum (Z900871)
- Run-off Controls**
- | | |
|--|---|
| <input type="checkbox"/> Catch basins within 25 ft blocked? | <input type="checkbox"/> Portable Booms |
| <input type="checkbox"/> Filter Sock in Catch Basins | <input type="checkbox"/> Vacuums |
| <input checked="" type="checkbox"/> Other <u>NOT required per J. Parsons</u> | |

Weather Issues - Describe none

Comments Glacier mobilized to site; Reviewed Glacier's HASP prior to work; Glacier set up work, exclusion and decon areas

Site Representative: APS began utility locate on 2-62 slab.

Michael J. Jurek - Golder Assoc

DAILY QUALITY ASSURANCE FIELD SHEET

**Boeing Plant 2
Removal of Caulk Containing > 25 ppm PCBs**

Date 10/21/09 Weather cloudy, lt. rain 55°F at 1300
 Start Time 0730 End Time 1600
 Contractors Onsite Glacier, Golder, APS Locating
 Visitors Boeing: J. Parsons
 Plant 2 Area 2-62 Bldg Specific Area Location West end west end of south stem walls

Work Performed Paint Removal

☒ ~~Sawcutting~~ - Linear ft of Joint(s) 185 lf (254 sf)

☐ Slurry/Water Controlled and Collected?

Paint Removal Method used hand scabblers and scrapers to remove paint

☐ Initial Caulk/Concrete Removal - Linear ft of Joints

Method

☐ Remaining Caulk Removal

☐ Sawcutting

☐ Washing

☐ Scraping

☐ Grinding

☐ Other - Describe

☐ Barriers Required? - Describe

☐ Slurry/Water and Solids controlled and collected?

Method

☐ New Caulk Installed (2-10 Area Only) - Linear ft

☐ CDF Backfill (2-60s Area Only) - Linear ft / Cubic Yards

☒ Daily Clean-up

Method vacuum / brooms used to collect paint chips placed in 55 gal drum (2900871)

Run-off Controls

☐ Catch basins within 25 ft blocked?

☐ Portable Booms

☐ Filter Sock in Catch Basins

☐ Vacuums

☒ Other not required per J. Parsons

Weather Issues - Describe


Comments Glacier continued removing paint from bldg exterior stem walls in areas where caulk will be removed.

Site Representative: APS completed utility locates at the 2-62, 2-63, 2-65 and 2-66 bldgs.

Michael Lupo - Golder

Boeing Plant 2

Removal of Caulk Containing > 25 ppm PCBs

Plant 2 Area 2-62, 2-65 Specific Area Location 2-62 South Stem wall, South end east wall, interior joint NW area
Work Performed Paint Removal 2-65 South east interior joint floor
 Sanitary Linear ft of Joint(s) walls 56.4 ft (85 sf), floors 91 sf
Shunt Water Controlled and Collected

☐ Remaining Caulk Removal

<input type="checkbox"/> Sawcutting	<input type="checkbox"/> Washing
<input type="checkbox"/> Scraping	<input type="checkbox"/> Grinding
<input type="checkbox"/> Other - Describe _____	
<input type="checkbox"/> Barriers Required? - Describe _____	

☒ Daily Clean-up
Method Vacuum / brooms used to collect paint chips
placed in 55 gal drum (Z900871)

☐ Catch basins within 25 ft blocked? ☐ Portable Booms
☐ Filter Sock in Catch Basins ☐ Vacuums
☒ Other Not required per J. Parsons

Comments Glacier pen completed removal of paint along joints to be removed including stem walls and slabs. No paint on 2-63 or 2-66 slabs

Site Representative: _____

Michael Lumsden - Gelder

DAILY QUALITY ASSURANCE FIELD SHEET

Boeing Plant 2
Removal of Caulk Containing > 25 ppm PCBs

Date 10/23/09 Weather rain

Start Time 0730 End Time 0830

Contractors Onsite Glacier, Golder

Visitors none

Plant 2 Area 262 Specific Area Location _____

Work Performed

☐ Sawcutting - Linear ft of Joint(s) _____

☐ Slurry/Water Controlled and Collected? _____

Method _____

☐ Initial Caulk/Concrete Removal - Linear ft of Joints _____

Method _____

☐ Remaining Caulk Removal

☐ Sawcutting ☐ Washing

☐ Scraping ☐ Grinding

☐ Other - Describe _____

☐ Barriers Required? - Describe _____

☐ Slurry/Water and Solids controlled and collected? _____

Method _____

☐ New Caulk Installed (2-10 Area Only) - Linear ft _____

☐ CDF Backfill (2-60s Area Only) - Linear ft / Cubic Yards _____

☐ Daily Clean-up

Method _____

Run-off Controls

☐ Catch basins within 25 ft blocked? ☐ Portable Booms

☐ Filter Sock in Catch Basins ☐ Vacuums

☐ Other _____

Weather Issues - Describe No site work today due to rain

Comments Glacier not on site except to store equipment and supplies. Paint removal completed yesterday.

Site Representative: Saw working scheduled to begin Monday.

Michael Joseph - Golder

DAILY QUALITY ASSURANCE FIELD SHEET

**Boeing Plant 2
Removal of Caulk Containing > 25 ppm PCBs**

Date 10/26/09 Weather rain
 Start Time 0730 End Time 0830
 Contractors Onsite Glacier, Pennhall, Golder
 Visitors Boeing: J. Parsons
 Plant 2 Area 2-62 Specific Area Location _____

Work Performed

- ☐ Sawcutting - Linear ft of Joint(s) _____
 ☐ Slurry/Water Controlled and Collected? _____
 Method _____
- ☐ Initial Caulk/Concrete Removal - Linear ft of Joints _____
 Method _____
- ☐ Remaining Caulk Removal
- | | |
|--|-----------------------------------|
| <input type="checkbox"/> Sawcutting | <input type="checkbox"/> Washing |
| <input type="checkbox"/> Scraping | <input type="checkbox"/> Grinding |
| <input type="checkbox"/> Other - Describe _____ | |
| <input type="checkbox"/> Barriers Required? - Describe _____ | |
- ☐ Slurry/Water and Solids controlled and collected? _____
 Method _____
- ☐ New Caulk Installed (2-10 Area Only) - Linear ft _____
- ☐ CDF Backfill (2-60s Area Only) - Linear ft / Cubic Yards _____
- ☐ Daily Clean-up
 Method _____

Run-off Controls

- | | |
|---|---|
| <input type="checkbox"/> Catch basins within 25 ft blocked? | <input type="checkbox"/> Portable Booms |
| <input type="checkbox"/> Filter Sock in Catch Basins | <input type="checkbox"/> Vacuums |
| <input type="checkbox"/> Other _____ | |

Weather Issues - Describe no work today due to steady rain

Comments Pennhall sawcutting contractor mobilized to the site today. Reviewed HASP prior to work

Site Representative: Michael Lumpkin
Michael Lumpkin - Golder

DAILY QUALITY ASSURANCE FIELD SHEET

Boeing Plant 2
Removal of Caulk Containing > 25 ppm PCBs

Date 10/27/09 Weather Partly Sunny, calm 52°F @ 1200
Start Time 0730 End Time 1600
Contractors Onsite Glacier, Pennhall, Golder
Visitors Boeing: J. Flaherty, J. Parsons (Am)
Plant 2 Area 2-62 Specific Area Location South half, and interior north

Work Performed

- ☒ Sawcutting - Linear ft of Joint(s) 989
☐ Slurry/Water Controlled and Collected? yes
Method Vacuum into 55 gal drums
☐ Initial Caulk/Concrete Removal - Linear ft of Joints none
Method _____
☐ Remaining Caulk Removal
☐ Sawcutting ☐ Washing
☐ Scraping ☐ Grinding
☐ Other - Describe _____
☐ Barriers Required? - Describe _____
☐ Slurry/Water and Solids controlled and collected? _____
Method _____
☐ New Caulk Installed (2-10 Area Only) - Linear ft _____
☐ CDF Backfill (2-60s Area Only) - Linear ft / Cubic Yards _____
☒ Daily Clean-up
Method _____

Run-off Controls

- ☐ Catch basins within 25 ft blocked? ☐ Portable Booms
☐ Filter Sock in Catch Basins ☐ Vacuums
☒ Other no catch basins adjacent to work areas

Weather Issues - Describe none

Comments Two concrete saws, concrete slurry drilled.
slurry drums labeled and tracked.

Site Representative: _____

Michael Joseph Golder

DAILY QUALITY ASSURANCE FIELD SHEET

Boeing Plant 2
Removal of Caulk Containing > 25 ppm PCBs

Date 10-28-2009

Weather CLDY, 42° AM

CLDY, 50° PM

Start Time 0730

End Time _____

Contractors Onsite GLACIER, PENHALL, GOLDER

~~Boeing~~ BOEING - FLAHERTY, PARSONS

Plant 2 Area 2-62

Specific Area Location

SAWCUTTING - N. PORTION 2-62
REMOVAL - S. END + N. CENTRAL 2-62
CDF - N. INTERIOR, SUPERIMETER

Work Performed

- ☒ Sawcutting - Linear ft of Joint(s) 862' TOTAL FOR ~ 571 LF. JTS
- ☒ Slurry/Water Controlled and Collected? YES
- Method VACUUM INTO 55 GAL DRUMS WHILE SAWCUTTING
- ☒ Initial Caulk/Concrete Removal - Linear ft of Joints 651 LF
- Method EXCAVATOR & LABORERS
- ☐ Remaining Caulk Removal
- ☐ Sawcutting ☐ Washing
- ☒ Scraping ☐ Grinding
- ☒ Other - Describe REMOVE 2" SOIL AFTER CONCRETE/CAULK REMOVAL
- ☐ Barriers Required? - Describe _____
- ☐ Slurry/Water and Solids controlled and collected? _____
- Method _____
- ☐ New Caulk Installed (2-10 Area Only) - Linear ft / _____
- ☒ CDF Backfill (2-60s Area Only) - Linear ft / Cubic Yards 8 YD³ / 244 LF
- ☒ Daily Clean-up
- Method PLACED PLASTIC + SANDBAGS OVER OPEN TRENCHES IN CASE OF RAIN. DECON

Run-off Controls

- ☐ Catch basins within 25 ft blocked? ☐ Portable Booms
- ☐ Filter Sock in Catch Basins ☐ Vacuums
- ☒ Other NO CDS W/IN 25' OF WORK AREAS. USED SANDBAGS + PLASTIC ON OPEN SLOTS.

Weather Issues - Describe NONE -

Comments 2 SAWCUT MACHINES - SLURRY VACUUMED INTO DRUMS.

Site Representative: Scott A. Macleod - GOLDER

DAILY QUALITY ASSURANCE FIELD SHEET

**Boeing Plant 2
Removal of Caulk Containing > 25 ppm PCBs**

Date 10-29-2009

Weather SHOWERS 43° AM / SCATTERED LIGHT DRIZZLE, 47° PM

Start Time 0730

End Time 1600

Contractors Onsite GLACIER

~~GLACIER~~ BOEING - FLAHERTY, PARSONS

Plant 2 Area 2-62

Specific Area Location _____

Work Performed

☐ Sawcutting - Linear ft of Joint(s) NONE TODAY

☐ Slurry/Water Controlled and Collected? _____

Method _____

☒ Initial Caulk/Concrete Removal - Linear ft of Joints 289 LF

Method EXCAVATOR + LABORERS

☐ Remaining Caulk Removal

☐ Sawcutting ☐ Washing

☒ Scraping ☐ Grinding

☒ Other - Describe REMOVE 2" SOIL AFTER CONCRETE/CAULK REMOVAL

☒ Barriers Required? - Describe PLASTIC + SANDBAGS USED TO
KEEP RUN-OFF OUT OF SLOTS.

☐ Slurry/Water and Solids controlled and collected? _____

Method _____

☐ New Caulk Installed (2-10 Area Only) - Linear ft _____

☒ CDF Backfill (2-60s Area Only) - Linear ft / Cubic Yards 8 yd³ / 285 LF

☒ Daily Clean-up

Method DECON. PLASTIC + SANDBAGS OVER
OPEN SLOTS.

Run-off Controls

☐ Catch basins within 25 ft blocked? ☐ Portable Booms

☐ Filter Sock in Catch Basins ☐ Vacuums

☒ Other NO CB'S W/IN 25'. USED PLASTIC + SANDBAGS @ OPEN SLOTS.

Weather Issues - Describe RAIN LAST NIGHT. WATER PUDDLES ON SLAB. 2 SMALL

Comments PUDDLES IN SLOT ON W. PERIM, S END. WATER
VACUUMED INTO DRUM.

Site Representative: Scott W. Matthews

Boeing Plant 2

Removal of Caulk Containing > 25 ppm PCBs

Weather partly cloudy 56°F Am / 62°F Pm

End Time 1600

Visitors Boeing: J. Flaherty (intermittently)

Specific Area Location North end, South interior, SW corner

☐ Sawcutting - Linear fit of Joint(s) none Today

Slurry/Water Controlled and Collected?

☒ Initial Caulk/Concrete Removal - Linear ft of Joints 452 L.F.

Method excavator hand tools

☐ Remaining Caulk Removal

Washing



Scraping

Grinding

 Other - Describe removed 2' min. of soil below slab after

☐ Barriers Required? - Describe none caulk/concrete removed

☒ Slurry/Water and Solids controlled and collected?

New Caulk Installed (2-10 Area Only) - Linear ft

<input checked="" type="checkbox"/>	CDF Backfill (2-60s Area Only) - Linear ft / Cubic Yards	553 L.F.	20 CY
-------------------------------------	--	----------	-------

☒ **Daily Clean-up**

Method placed plastic sheeting and sand bags over
open trenches, decont'd work areas

☐ Catch basins within 25 ft blocked?

Portable Booms

Filter Sock in Catch Basins

Vacuums

Other No CB's within 25' of work areas

Weather Issues - Describe none

Comments removed caulk/concrete/soil placed in double lined
rod off.

Site Representative: Michael Lemphir - Geolder Assoc.

DAILY QUALITY ASSURANCE FIELD SHEET

Boeing Plant 2
Removal of Caulk Containing > 25 ppm PCBs

Date 11/2/09 Weather mostly cloudy 42°F AM / 54°F PM
Start Time 0730 End Time 1600
Contractors Onsite Glacier, Penball
Visitors Boeing: J. Parsons
Plant 2 Area 2-66 Specific Area Location interior joints

Work Performed

- ☒ Sawcutting - Linear ft of Joint(s) 1233 L.F. saw cut (± 641 L.F. JT)
☒ Slurry/Water Controlled and Collected?
Method vacuumed directly into 55 gal drums while cutting
☐ Initial Caulk/Concrete Removal - Linear ft of Joints none
Method _____
☐ Remaining Caulk Removal
☐ Sawcutting ☐ Washing
☐ Scraping ☐ Grinding
☐ Other - Describe _____
☐ Barriers Required? - Describe _____
☒ Slurry/Water and Solids controlled and collected?
Method broomed and washed slab surface
☐ New Caulk Installed (2-10 Area Only) - Linear ft _____
☐ CDF Backfill (2-60s Area Only) - Linear ft / Cubic Yards none Today
☒ Daily Clean-up
Method placed plastic sheeting over saw cut slots; decon'ed work areas

Run-off Controls

- ☐ Catch basins within 25 ft blocked? ☐ Portable Booms
☐ Filter Sock in Catch Basins ☐ Vacuums
☐ Other No CB's within 25' of work areas

Weather Issues - Describe none

Comments Two saw cutting machines today. All stored equipment had been removed from slab by Boeing

Site Representative: Michael Jumper - Golder Assoc.

DAILY QUALITY ASSURANCE FIELD SHEET

**Boring Plant 2
Removal of Caulk Containing > 25 ppm PCBs**

Date 11-3-09 Weather partly cloudy 45°F Am / 50°F Pm
Start Time 0730 End Time 1600

Contractors Onsite Glacier, Penhall

Visitors Boring: J. Flaherty

Plant 2 Area 2-65, 2-63, 2-66 Specific Area Location 2-65 interior, 2-63 ^{North end} ~~int~~, 2-66 N. perimeter wall

Work Performed

☒ Sawcutting - Linear ft of Joint(s) 2-65 819 L.F. (160 L.F. JT); 2-63 221 L.F. (22 L.F. JT)

☒ Slurry/Water Controlled and Collected? yes 2-66 15 L.F. (15 L.F. JT)

Method vacuumed directly into 55gal drums

☐ Initial Caulk/Concrete Removal - Linear ft of Joints none

Method _____

☐ Remaining Caulk Removal

☐ Sawcutting

☐ Washing

☐ Scraping

☐ Grinding

☐ Other - Describe _____

☐ Barriers Required? - Describe _____

☒ Slurry/Water and Solids controlled and collected? yes

Method broomed and washed slab surface near joints

☐ New Caulk Installed (2-10 Area Only) - Linear ft _____

☐ CDF Backfill (2-60s Area Only) - Linear ft / Cubic Yards _____

☐ Daily Clean-up

Method _____

Run-off Controls

☐ Catch basins within 25 ft blocked?

☐ Portable Booms

☐ Filter Sock in Catch Basins

☐ Vacuums

☐ Other no CBS within 25' of work areas

Weather Issues - Describe none

Comments Saw cutting complete. Decon'ed saws before demob'ed from site.

Site Representative: Michael J. Murphy - Golder Assoc.

DAILY QUALITY ASSURANCE FIELD SHEET

**Boeing Plant 2
Removal of Caulk Containing > 25 ppm PCBs**

Date 11/4/09 Weather partly - mostly cloudy 40°F AM / 63°F PM
Start Time 0730 End Time 1600

Contractors Onsite Glacier

Visitors Boeing: J. Flaherty

Plant 2 Area 2-66, 2-62 Specific Area Location Northern 2/3 2-66 interior, SW 2-62

Work Performed

☐ Sawcutting - Linear ft of Joint(s) completed X on 11/3/09

☐ Slurry/Water Controlled and Collected? _____

Method _____

☒ Initial Caulk/Concrete Removal - Linear ft of Joints 551 L.F. @ 2-66

Method excavator, hand tools

☐ Remaining Caulk Removal

☐ Sawcutting

☐ Washing

☒ Scraping

☐ Grinding

☒ Other - Describe removed 2" min. of soil below slabs after
caulk/concrete removal

☐ Barriers Required? - Describe _____

☐ Slurry/Water and Solids controlled and collected? _____

Method _____

☐ New Caulk Installed (2-10 Area Only) - Linear ft _____

☒ Concrete GDF Backfill (2-60s Area Only) - Linear ft / Cubic Yards 551 L.F. @ 2-66 113 L.F. @ 2-62

☒ Daily Clean-up 664 L.F. total / 20cy

Method no open trenches, decont'd work areas

Run-off Controls

☐ Catch basins within 25 ft blocked?

☐ Portable Booms

☐ Filter Sock in Catch Basins

☐ Vacuums

☐ Other No CBS within 25' of work areas

Weather Issues - Describe none

Comments caulk/concrete/soil placed in double lined roll-offs.
Trenches backfilled with concrete per Boeing.

Site Representative: Michael Jupp - Golder Assoc.

Boeing Plant 2

Removal of Caulk Containing > 25 ppm PCBs

Contractors Onsite Glacier

Plant 2 Area 2-65 Specific Area Location interior joints 2-65 slab

☐ Sawcutting - Linear ft of Joint(s) Complete

Slurry/Water Controlled and Collected? _____

Method

☒ Initial Caulk/Concrete Removal - Linear ft of Joints 328 L.F.

Method excavator hand tools

☐ Remaining Caulk Removal

Sawcutting:

 Washing

☒ Scraping

Grinding

Other - Describe removed 2" min. of soil below slabs after

☐ Barriers Required? - Describe none required cut/c/concrete
removal

☐ Slurry/Water and Solids controlled and collected?

Method

New Caulk Installed (2-10 Area Only) - Linear ft

CDF Backfill (2-60s Area Only) - Linear ft / Cubic Yards 316 L.F. / 104 concrete

Daily Clean-up

Method plastic sheeting placed over open trenches

☐ Catch basins within 25 ft blocked? ☐ Portable Booms

Filter Sock in Catch Basins

Vacuums

☒ Other a small amount of runoff was vacuumed directly

Weather Issues - Describe from trenches directly into 55 gal. drum prior

Comments to concrete pour.
caulk / concrete / Soil placed in double lined roll-offs.

Site Representative: Michael Lupton - Golder Assoc.

Boeing Plant 2

Removal of Caulk Containing > 25 ppm PCBs

Weather intermittent AM showers 50°F AM / 54°F PM

End Time: 1600

Visitors Boeing: J. Flaherty

Specific Area Location interior stem wall Northwest quarter

☐ Sawcutting - Linear ft of Joint(s) complete

☐ **Slurry/Water Controlled and Collected?**

☒ Initial Caulk/Concrete Removal - Linear ft of Joints 220 L.F.

Method excavator, hand tools

☐ **Remaining Caulk Removal**

Sawcutting:

Washing

 Scraping

Grinding

Other - Describe removed 2" min. of soil below slabs after

☐ Barriers Required? - Describe none remaining curb/concrete

☐ Slurry/Water and Solids controlled and collected?

Method

☐ **New Caulk Installed (2-10 Area Only) - Linear ft**

☒ CDF Backfill (2-60s Area Only) - Linear ft / Cubic Yards 224 L.F. / 9 cy concrete

Daily Clean-up

Method decont'd work areas, no open trench

☐ Catch basins within 25 ft blocked?

Portable Booms

Filter Sock in Catch Basins

Vacuums

☒ Other No CBs within 25' of work areas

Weather Issues - Describe Concrete was poured immediately after concrete/soil cures

Comments removal to minimize run-off into trenches

Removed Curb/concrete/soil was placed in double-lined roll-offs

Site Representative: Michael Lempine - Golder Assoc.

DAILY QUALITY ASSURANCE FIELD SHEET

Boeing Plant 2
Removal of Caulk Containing > 25 ppm PCBs

Date 11-9-09 Weather cloudy AM showers 46°F AM / 52°F PM
Start Time 0730 End Time 1600

Contractors Onsite Glacier

Visitors Boeing: none

Plant 2 Area 2-66, 2-65, 2-63, 2-62 Specific Area Location South 1/3 2-66; Machine Foundation Joints

Work Performed Concrete Breaker
☒ Sawcutting - Linear ft of Joint(s) perimeter walls 2-66 219 L.F. (219 L.F. JT); 2-63 23 L.F. (23 L.F. JT); 2-62 56 L.F. (56 L.F. JT)
☐ Slurry/Water Controlled and Collected? Total Breaker = 298 L.F.
Method

☒ Initial Caulk/Concrete Removal - Linear ft of Joints 2-66 295 L.F.; 2-65 15 L.F.
Method excavator / hand tools Total caulk = 310 L.F.

☐ Remaining Caulk Removal

☐ Sawcutting ☐ Washing

☒ Scraping/scabbling ☐ Grinding

☐ Other - Describe removed 2" min. below slabs after caulk/concrete removed.

☐ Barriers Required? - Describe

☐ Slurry/Water and Solids controlled and collected?

Method

☐ New Caulk Installed (2-10 Area Only) - Linear ft

☐ CDF Backfill (2-60s Area Only) - Linear ft / Cubic Yards none today

☒ Daily Clean-up

Method plastic sheeting and sand bags placed over open trenches, decon'd work areas

Run-off Controls

☒ Catch basins within 25 ft blocked? ☐ Portable Booms

☐ Filter Sock in Catch Basins ☐ Vacuums

☒ Other plastic sheeting placed over CB within 25' of work areas

Weather Issues - Describe

Comments Glacier used excavator-mounted concrete breaker to break concrete in areas inaccessible to saw cutter

Site Representative: caulk/concrete/soil removed and placed in double-lined roll-offs,

Michael Lempert - Golder Assoc.

DAILY QUALITY ASSURANCE FIELD SHEET

Boeing Plant 2
Removal of Caulk Containing > 25 ppm PCBs

Date 11/10/09
Start Time 0730

Weather Am Showers
End Time 1600

48°F AM / 52°F PM

Contractors Onsite Glacier

Visitors Boeing: J. Parsons

Plant 2 Area 2-66, 2-65, 2-63, 2-62 Specific Area Location 2-66 N. perimeter; 2-65 machine foundation JTS.

Work Performed Concrete Breaker 2-63 N. perimeter; Superm 2-62 S. perimeter

☒ Sawcutting - Linear ft of Joint(s) 2-62 23 LF (23 LF JTS)

☐ Slurry/Water Controlled and Collected? _____

Method _____

☒ Initial Caulk/Concrete Removal - Linear ft of Joints 2-66 23 LF; 2-65 94 L.F.

Method excavator, hand tools 2-63 23 LF; 2-62 79 L.F.

☐ Remaining Caulk Removal Total caulk = 219 L.F.

☐ Sawcutting ☐ Washing

☒ Scraping/Scabbling ☐ Grinding

☐ Other - Describe removed 2" min soil from below slabs after

☐ Barriers Required? - Describe caulk/concrete removed

☐ Slurry/Water and Solids controlled and collected? _____

Method _____

☐ New Caulk Installed (2-10 Area Only) - Linear ft _____

☐ CDF Backfill (2-60s Area Only) - Linear ft / Cubic Yards none today

☒ Daily Clean-up

Method plastic sheeting placed and sand bags placed over open trenches; decont'd work areas

Run-off Controls

☐ Catch basins within 25 ft blocked? ☐ Portable Booms

☐ Filter Sock in Catch Basins ☐ Vacuums

☐ Other No CBs within 25' of work areas

Weather Issues - Describe none

Comments Glacier used an excavator mounted concrete breaker to break concrete along the 2-62 S. perimeter wall

Site Representative: inaccessible to saw cutter. Caulk/concrete/soil removed and placed in double-lined roll-offs,

Michael Lempho - Golder Assoc.

Boeing Plant 2

Removal of Caulk Containing > 25 ppm PCBs

Weather Clear 45°F Am / 52°F Pm

End Time: 1600

~~Weather~~ Being: none

Plant 2 Area 2-66, 2-65, 2-63, 262	Specific Area Location 2-66 South interior and perimeter walls
------------------------------------	--

2-65 interior machine foundation JTS
2-63 north edge; 2-62 scattered around perimeter

Sawcutting - Linear ft of Joint(s) 2-63 north edge; 2-62 scattered cracks Perimeter

☐ **Slurry/Water Controlled and Collected?**

Method

Initial Cauld Concrete Removal - Linear ft of Joints 2-62 23 LF South perimeter

Method excavator / hand tools other areas previously removed

☐ Remaining Caulk Removal

Sawcutting

Washing

☒ Scraping / Scabbling

Grinding

Other - Describe removed 2" min. of soil from below slabs after

☐ Barriers Required? - Describe caulk / concrete removed

Slurry/Water and Solids controlled and collected?

Method

New Caulk Installed (2-10 Area Only) - Linear ft

 CDF Backfill (2-60s Area Only) - Linear ft / Cubic Yards 2-66 318 LF; 2-65 141 LF

☒ Daily Clean-up 2-63 23 LF; 2-62 79 LF.

Method decont'd work areas Total 561 L.F./28cy

☐ Catch basins within 25 ft blocked?

Portable Booms

Filter Sock in Catch Basins

Vacuums

☐ Other

Weather Issues - Describe

Comments	<u>Caustic/concrete/soil removed and placed in double-lined</u> <u>roll-off; paint chips/soil in drum Z900 871 disposed</u>
----------	--

Site Representative: of in roll off 5411 (2900911).

Michael Joseph - Genl Sec Assoc.

DAILY QUALITY ASSURANCE FIELD SHEET

**Boeing Plant 2
Removal of Caulk Containing > 25 ppm PCBs**

Date 11-12-09 Weather Clear 46°F Am / 60°F Pm
Start Time 0730 End Time 1530

Contractors Onsite Gilacier

Visitors Boeing: J. Parsons (intermittently)

Plant 2 Area 2-60 slabs Specific Area Location general site clean-up

Work Performed 2-66, 2-65, 2-63, 2-62

☐ Sawcutting - Linear ft of Joint(s) complete

☐ Slurry/Water Controlled and Collected?

Method _____

☐ Initial Caulk/Concrete Removal - Linear ft of Joints _____

Method _____

☐ Remaining Caulk Removal

☐ Sawcutting ☐ Washing

☐ Scraping ☐ Grinding

☐ Other - Describe _____

☐ Barriers Required? - Describe _____

☐ Slurry/Water and Solids controlled and collected? _____

Method _____

☐ New Caulk Installed (2-10 Area Only) - Linear ft _____

☐ CDF Backfill (2-60s Area Only) - Linear ft / Cubic Yards none today

☒ Daily Clean-up

Method cleaned and decont'd work areas

begin equipment decon, decon water

Run-off Controls placed in 55 gal. drum

☐ Catch basins within 25 ft blocked? ☐ Portable Booms

☐ Filter Sock in Catch Basins ☐ Vacuums

☐ Other none required.

Weather Issues - Describe _____

Comments Gilacier used hand tools to remove loose caulk chips/pieces from the slab surface at the western

Site Representative: side of 2-62 slab

while walking the caulk removal areas to verify that the caulk had been removed from the planned areas, Golder identified three areas where the caulk had not been removed completely, will remove tomorrow.
Michael Lupini - Golder Assoc.

Boeing Plant 2

Removal of Caulk Containing > 25 ppm PCBs

Weather cloudy Am showers 46°F Am

End Time 1100

Visitors Boeing: none

Specific Area Location 2-66 interior east middle area
w. perimeter wall

Concrete Breaking

☐ **Slurry/Water Controlled and Collected?** _____

☒ Initial Caulk/Concrete Removal - Linear ft of Joints 56 LF

☐ Remaining Caulk Removal

Washing

Grinding

☒ Other - Describe remove 2" min. of soil from below slab after
☐ Barriers Required? - Describe cable/concrete removal

Barriers Required? - Describe curb/concrete removal

☐ Slurry/Water and Solids controlled and collected?

Method

New Caulk Installed (2-10 Area Only) - Linear ft

☒ CDF Backfill (2-60s Area Only) - Linear ft / Cubic Yards 56 LF / 3 cy concrete

 Daily Clean-up

Method clean and decont'd work areas

completed equipment decon. i decon water

Run-off Controls placed in 55 gal drums

☐ Catch basins within 25 ft blocked?

Portable Booms

Filter Sock in Catch Basins

Vacuums

Other No CBs within 25' of work areas

Weather Issues - Describe *None*

Comments caulk / concrete / Soil removed and placed in double-
lined roll-off. Glacier completed planned

Site Representative: cavk removal, decan' of equipment and
demobilized from site

Michael Joseph - Goldier Assoc.

Preliminary IM Completion Report
Removal of PCB-Containing Caulk in Concrete Pavements

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APPENDIX C
FIELD NOTES

Preliminary IM Completion Report
Removal of PCB-Containing Caulk in Concrete Pavements

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Date	Cable Removal 2-605	10/20/09	Cable Removal 2-605	10/20/09
0700	Arrive on site, meet Jennifer Parsons & Joe Flaherty @ 2-622 slabs.	MSL	013-1646, 900, 500, 09	MSL
0800	Contractor Glacier Env. with mobilized @ approx. 0815.	MSL	013-1646, 900, 500, 09	MSL
0900	Discovered paint removal, steam, roll offs, sampling	MSL	013-1646, 900, 500, 09	MSL
1000	Paint chips will be sampled for TCEP metals & used for waste profile.	MSL	013-1646, 900, 500, 09	MSL
1100	Roll offs to be filled only ~ 1/2 due to weight. Four currently on site.	MSL	013-1646, 900, 500, 09	MSL
1200	Contractor to bring current H&S certificates, 40hr and lead awareness.	MSL	013-1646, 900, 500, 09	MSL
1300	Prisms to be used from those in the 2-49 Bldg.	MSL	013-1646, 900, 500, 09	MSL
1400	Prisms to be used from those in the 2-49 Bldg.	MSL	013-1646, 900, 500, 09	MSL
1500	Prisms to be used from those in the 2-49 Bldg.	MSL	013-1646, 900, 500, 09	MSL
1600	Prisms to be used from those in the 2-49 Bldg.	MSL	013-1646, 900, 500, 09	MSL
1700	Prisms to be used from those in the 2-49 Bldg.	MSL	013-1646, 900, 500, 09	MSL
1800	Prisms to be used from those in the 2-49 Bldg.	MSL	013-1646, 900, 500, 09	MSL
1900	Prisms to be used from those in the 2-49 Bldg.	MSL	013-1646, 900, 500, 09	MSL
2000	Prisms to be used from those in the 2-49 Bldg.	MSL	013-1646, 900, 500, 09	MSL
2100	Prisms to be used from those in the 2-49 Bldg.	MSL	013-1646, 900, 500, 09	MSL
2200	Prisms to be used from those in the 2-49 Bldg.	MSL	013-1646, 900, 500, 09	MSL
2300	Prisms to be used from those in the 2-49 Bldg.	MSL	013-1646, 900, 500, 09	MSL
2400	Prisms to be used from those in the 2-49 Bldg.	MSL	013-1646, 900, 500, 09	MSL

10/20-04
 MSL
 Callk removal 2-605
 013-1646, 900, 500, 04
 hand held scabblers (pneumatic)
 Two workers working on
 north wall of the 2-62
 slab. Tops and inside
 of curb wall.
 The south scabblers have a
 dust collection vacuum setup
 to capture chips & dust.
 Dirt and debris within a
 2 ft. foot of the wall was removed
 & and placed in a drum
 below paint removal begins.
 1300 APS arrive on site
 currently locating utilities
 @ 2-62 Slab.
 APS departed at approx
 1345.
 1415 Glacier stopped work for the
 day. Began equipment
 pickup.
 1430 Done for the day.

10/20/04
 MSL
 Callk Removal 2605
 013-1646, 900, 500, 04
 Arrive on site
 Tool box safety meeting
 Glacier
 Glacier will continue
 removing paint from stem
 wall.
 Note: Stem walls are not
 continuous in work areas.
 0915 Glacier setting up
 equipment and excavation
 zone. Also PPE
 0926 Begin removing paint
 two scabblers.
 1000 Glacier has finished
 removing paint from
 stem wall @ N. end of
 2-62 Slab requiring removal
 of moving and setting up
 at South end of west wall

⑤	Cask Removal	10/21/09	MS	10/21/09	MS
	013-6 46-009, 500, 04	MSL	1025	AS	returns to the site to continue the outside utility locate.
	DRUM LOG				
	Z900871	10/20/09	10/23		Paint chips lost, walk disposed 11/11 to Port of the Fall.
	Slush	Drums	Z900911		Removal
	Z900872	10/27/09	10/27		⑤ 11/12
	Z900874	10/27/09	10/27		⑤ 11/12
	Z900875	10/27/09	10/27		⑤ 11/12
	Z900876	10/27/09	10/27		11/12
	Z900880	10/27	10/27		882 11/12
	Z900881	10/27	10/27		damaged, unlit
	Z900882	10-27	10-28		882 11/12
	Z900883	10-27	10-28		882 11/12
	Roll offs	2-62	2-62		Roll off
	Z900873	10-28-09	10-28-09		10-30-09
	Z900874	10/27/09	10-28-09		10-30-09
	Z900878	10-28-09	10-29-09		10-30-09
	Z900879	10-28-09	10-29-09		11-6-09
	Z900889	10-29	10-30-09		11-6-09
	Z900890	10/30	10/30		11-6-09
	Z900891	10/30	10/30		11-6-09
	Z900892				

⑥	Cask Removal	10/21/09	MSL	1025	AS
	013-1646-009, 500, 04	MSL	1025	AS	returns to the site to continue the outside utility locate.

Note: XP's completed locates on 2-63, 2-65 and 2-66 slabs Done with locates.

⑦	Caulk Removal 2-605	10/21/09	10/21/09	Caulk Removal 2-605	⑧
	013-1646.009, 500.09 <td>MSL<td>MSL<td>013-1646.009, 500.09<td></td></td></td></td>	MSL <td>MSL<td>013-1646.009, 500.09<td></td></td></td>	MSL <td>013-1646.009, 500.09<td></td></td>	013-1646.009, 500.09 <td></td>	
Paint Removal Progress					
10/20 10' 55"	W. Lr	W. Lr	6' 0" AM	Walls	Floors
10/21 10' 11"	W. half North end	inside	262		10/22 9' x 1
10/21 10' 11"	E. end North wall	inside	262		7' x 1
10/21 6" 3"	W. end North wall	inside	262		4' x 1
10/21 6" 12"	N. end W. wall	outside	262		11' x 1
10/21 18' 26"	middle W. wall	inside	262		3' x 1
10/21 30"	Struck S. end wall	inside	"		
10/21 6' 13.5"	"	"	"		
10/21 6' 12.0"	"	"	"		
10/21 6' 30"	"	"	"		
10/21 18' 10"	South end W. wall	"	"		
10/21 18' 10"	S. end W. wall	"	"		
10/21 10' 6"	W. end S. wall	"	"		
10/21 10' 11"	W. end S. wall	10' 11"	"		
10/22 10' 28"	West end S. wall	"	"		
10/22 10' 21"	East end S. wall	"	"		
10/22 10' 4"	East end S. wall	"	"		
10/22 18' 2"	Mid. West wall				
10/22 6' 2"	Mid. South East wall	265			
Floors					
22' x 1'	S. end East wall	inside			
8' x 1'	"	"	262		
8' x 1'	"	"	"		
26' x 1'	North end West side	outside	"		
7' x 1'	North end West side	interior			

(9)	Caulk Removal 2-605 013-1646-009, 500.04	10/22/09 MSL	Caulk Removal 2-605 013-1646-009, 500.500, 04	(10)
0720 AHAM Canyon 5. Plateau M. complex	Arrive on site walk 2-65 slabs with Glacier To observe areas requiring paint removal		to be removed in the 62, 63, 65, 66. Slabs only one 2" wide section of paint to be removed on the east side of 2-65 slab stem wall and one area of floor, No other paint observed on the 2-65 or 2-63 2-63 or 2-66 slabs	
0740	Daily Safety Briefing		Cloudy, calm 540F	
0750 1200 1400 1600	Glacier sets up to remove paint removal along South wall 2-62 slab.		1300 Glacier has completed paint removal at the 2-62 slab. Setting up at 2-63 slab one area of floor paint and one small section of vertical.	
0830	Verify areas of paint removal at 2-62 slab.		1415 Depart site	
1130	Glacier has completed stem wall paint removal @ 2-62. Currently setting up to remove paint from slab, only a few small areas of paint to be removed on slab			
1200	I have completed walking and remarking joints			

⑪	CAULK Removal 2-60s 013.1646.009.500.04	10/23/09 MSL	10-26-09 MSL	CAULK Removal 2-60s 013-1646.009.500.04	⑫
0730	Arrive on site		0705	Arrive on site prepare for the day	
0750	Talked to A. Hall, Gabelein will only store equipment for the weekend today		0730	MUL w Gabelein Penhall on site for Saw cutting	
5:15	Finished paint removal yesterday and saw cutting is scheduled to begin Monday morning. Site conditions are too wet to mark out Saw cut lines.		0800 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 24:00	mini excavator mobilized to site H&S meeting w/ pen hall	
Cloudy, 57°F			Dawns Penhall Bryan Craig	DNM Sampling	
				Slurry 4s 3 Next 20 300% vapor	
				24 beyond 100% vapor	
				Exp'dited turn 3-5 day	
			Gabelein clay atom	pH, cap metal	

(13)

Carl's Removal 2-605
013-1646.009, 500.04

10/26/09
MSL

Total Metals, PCBs

Hold 20X
TCLP, MTA

Down Log

No work today because
of rain and very
wet site conditions

0900 Done for ~~the~~ the
day,

(14)

Carl's Removal 2-605
013-1646.009, 500.04

10/27/09
MSL

0720 arrive on site

0735 Daily Safety Meeting

Begin setting up
concrete saws, vacuums
and other equipment

0810 Have laid out west
stem wall cut around
stick out,

0840 Begin saw cutting
stem wall south middle
2-62 progressing south

0910 concrete slurry slays
with 2 1' of cut.

1010 Continuing saw cutting
and laying out cut lines

I have examined joint

(19)	Caulk Removal 2-60s 013-1646.009, 500.04	10/27-09 MSL	10/27/09 MSL	Caulk Removal 2-60s 013-1646.009, 500.04	2-60s 013-1646.009, 500.04	(20)
1130	No catch busins within 28' of work areas or were separated from work areas by steam walls or other barriers to surface flow.			Daily Saw GAL Dumbbell	Cutting Total	
1210	Two Saws on site, one saw had mechanical problem @ about 11:00. Mechanics arrive on site at about 11:45 to repair.	10/27 10/28	10/27 10/28	907H 1010 862*	2-62 2-62	
1200 Saw at 1200	Place or laying out saw cuts at north end of 2-62 Slab.					
1215	Both saws back in operation.					
1500	Saw cutting done for the day continued throughout the day as did vacuuming & churning.					*EXCLUDES CROSS CUTS
	Mastering saw cut length.					

(21)

CastK Removal 2-605
0115-1646, 009, 500, 104

10/28/09
NSL

0700

Arrive on site

0730

Daily safety briefing
- BEGIN SAWCUTTING CENTER
N/S JT INTERIOR 2-62 (N. END)
2 SAWS ON SAME JT, 150'
SAW SHALLOW CUT, 2ND SAW
FULL DEPTH CUT

0900 BEGIN REMOVAL ON E PERIMETER
0930 Alan Hill - Graveler -
CDF TO BE DELIVERED 2 PM.
1100 BEGIN REMOVAL N S. PERIMETER,
SW CORNER

- CONTINUE SAWCUTTING N PORTION
OF 2602 SLAB (2 E/W JTS,
W. HALF OF N. PERIM JT, W. PERIM
JT (~150'))

1200 REMOVE 19' SECTION FROM W. PERIM
NEAR S. END

1230 REMOVING INTERNAL N/S JT
IN N. END

1300 SAWCUTTERS DONE W/ 2-62 SLAB

mostly clear
Alan Brown

Alan Brown

Alan Brown

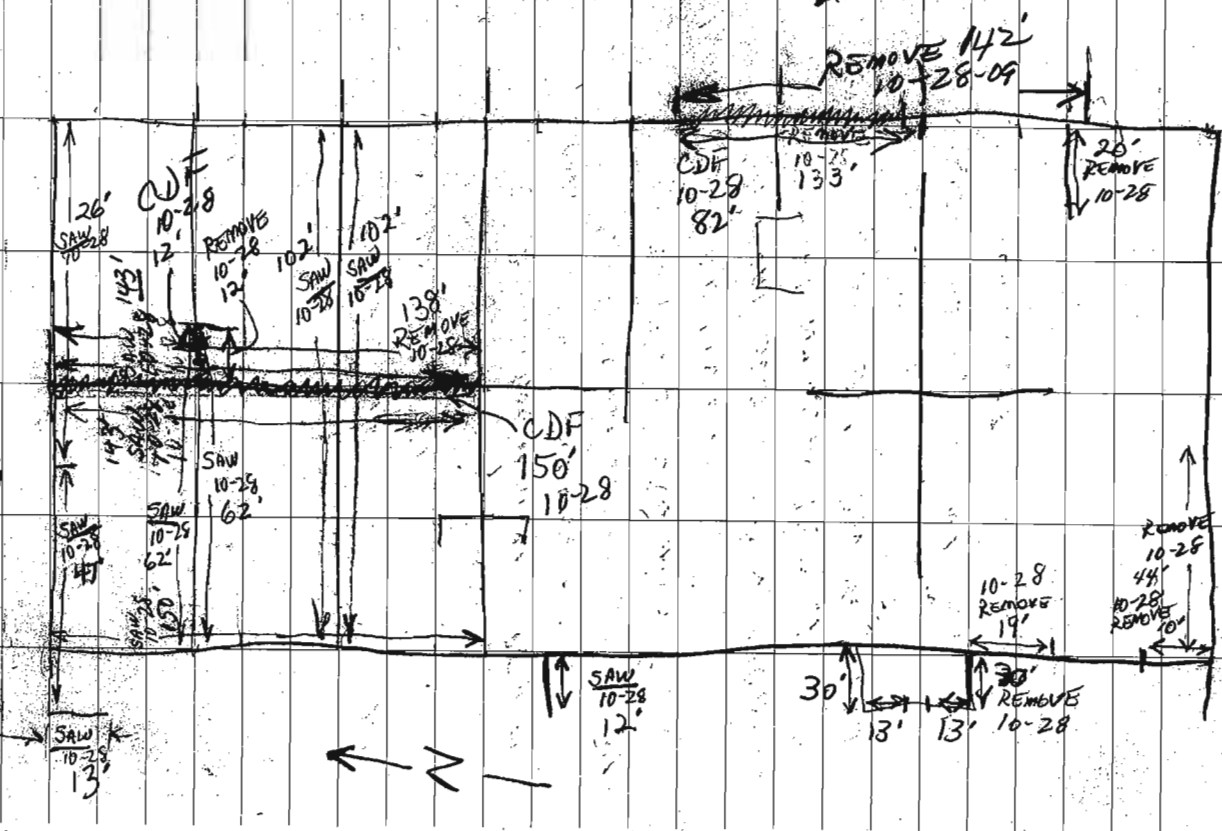
Alan Brown

Alan Brown

(22)

10-28-09
SAM

2602 SLAB
SKETCH



10-28-09
5AM

(23)

10-28-09

SURVEY DRUMS

E No START FULL

2900884

10-28-09 10-28

(5)

2900885

10-28-09 10-28

2900886

10-28-09 10-28

1345 SAWCUTTERS LEFT SITE FOR DAY.

(862) LF SAWCUT TODAY

- GLACIER MOVED TO S PORTION OF

2-62 TO BEGIN ADDN'L REMOVAL

REMOVAL TODAY - CONCRETE/CAULK

142+20+44+10+138+12+19+30+

13+13+30 = 651 LF

1600 CDF ARRIVED. BACKFILLED

REMOVAL SLOTS. 8 YD³ CDF

82+150+12 = 244 LF

1715 DONE FOR DAY - COVERED OPEN

TRENCHES W/ PLASTIC & SANDBAGS

IN CASE OF RAIN. MAINTENANCE

ON EXCLUSION ZONE BARRICADES.

10-29-09
5AM

(24)

425-328-7388 Dave
(GLACIER)

0730 ON SITE, SHOWERS, 43°

0800 SAFETY MEETING

HOUSEKEEPING

BOEING "911" = 206-655-2222

0830 RESUME REMOVAL OF CAULK/CONC.

ON W PERIM, CENTRAL PORTION

(32' OF 2-62 SLAB. NO SAWCUTTING

TODAY - FINISHED 2-62 SLAB

YESTERDAY

(0900 MOVED TO E/W SEAM & FOOTING

(32' + 11' + 11' = 65' IN E. CENTRAL PORTION OF SLAB

0930 MOVED TO NEXT E/W SEAM TO SOUTH.

1045 DRUM - TRENCH WATER

NO START FULL

2900887 10-29

VACUUMED PAVED WATER

1055 CREW WENT TO LUNCH WHILE WAITING

FOR CDF, CAFE CLOSED.

1105 CDF ARRIVED 8 YD³

PLACED CDF IN S. HALF OF SLAB

1150 DONE W/ CDF

CLEAN-UP

1200 CREW WENT TO LUNCH.

1330 DECON SAWCUT MACHINE

(27)	Cable Removal 2-605 013-1646.009, 500, 04	10/30/09 MSL	
0700	Arrive on site		
0730	Daily Safety Briefing		
	T to from Glacier strained - h3 back yesterday from reputative hand chanking, not on site		
	Two additional roll-offs received late late yesterday or earlier this morning 5559 and 5752. Placed on 262 slab.		
	I walked the slab to observe progress over the last two days. Review notes.		
	Discuss today's plan of the day w A. Hall - Glacier will continue running cable/ cable off the north end. not at		

(28)	Cable Removal 2-605 013-1646.009, 500, 04	10/30/09 MSL	
	CDF has been ordered for 1000 and possibly 1400 today.		
0840	Two additional roll-offs delivered. Staged at the 266 slab 5771 & 5948		
0850	Two more roll-offs delivered to 265 slab 5333 & 5621		
0900	Glacier preparing for CDF along stem wall at North end and north half of the west wall. Concrete removed by mini-excavator placed in loader bucket which is used to dump in roll off.		
	most of cable is not easily easily removed		

(29)

Cash Remained 2-605
013-1646-089, 500.04

Drum Log 2-66

✓✓ Z900702 11/2/09 11/3/09 FVN
✓✓ Z900703 11/3/09 11/3/09
✓✓ Z900704 11/3/09 11/3/09
✓✓ Z900705 11/3/09 11/3/09
✓✓ Z900706 11/3/09 11/3/09

10/3/09
MSL

Start FVN
11/2/09 11/3/09
11/3/09 11/3/09
11/3/09 11/3/09
11/3/09 11/3/09
11/3/09 11/3/09

10/3/09
MSL
Cash Remained 2-605
013-1646-089, 500.04

Drum Log 2-65

Z900708 11/3 11/3 ✓ slurry
Z900906 11/3 11/3 ✓ slurry
Z900907 11/3 11/3 ✓ slurry

(30)

Drums 2-63

✓✓ Z900707 11/3/09 11/3/09 slurry
✓ Z900912 11/11/09 trench water
✓ Z900913 11/12 11/12 Decon water

Roll offs

5333 Z900893 10/30 10/30 DeNiro's Begin End
5420 Z900894 10/30 10/30
5333 Z900895 11/5 11/5 265
5621 Z900896 11/5 11/5 265

Roll offs

5333 Z900895 11/30 11/30 used for
5621 Z900896 11/30 11/30 2-66 slabs
5940 Z900894 11/5 11/5 266
5771 Z900893 11/5 11/6 266/263
5429 Z900910 11/6 11/10 11/10
5411 Z900911 11/6 11/10
5424 Z900908 11/6 11/6 11/9 263, 266
5412 Z900909 11/6 11/9 11/10 266, 263

(31)

Callk Removal 2-603
013-646,009,500,04

10/30/09
MSL

in large next boards with
the corner. Small areas
adhered to the wall
removed with hand scraper

1025 ~~note~~ CDF truck arrives

1030 CDF begin pouring

Note: a minimum of 2" of
subgrade soil below slab
bottom vertical pieces of
callk removed by hand
shovel. Dispose in roll-off,

294696 1004 CDF

1135 Begin removing interior joint
south end

Note: Roll off 5894 FM
begin using 5615

(32)

Callk Removal 2-605
013-1646,009,500,04

2-62 callk removal

103

↑ ← Removal & paved →

10/30

Removed
paved

1004
CDF 561

cut.
152

paved
10/30/01
paved
10/30

1002' removed
paved

36'
1'
45'

262

Daily total

callk removed

2004

452 LF
439 LF total

553 LF
540 LF total

(33)	Castle Removal 2-60s 013-1646.009, 500.04	10/20/09 MSL	11/2/09 MSL	Castle Removal 2-60s 013-1646.009, 500.04	(34)
1425	Glacier making final preparations for another CDE pour on joint interior at the North end and exterior joints at the South perimeter along the South perimeter wall west end	10/20/09 MSL	0715 Arrive on site	Daily Safety Briefing, POD; will begin Saw cutting at 2-66 Slab. The slab has been completely cleared of stored surplus, will Saw cut entire slab.	
1438	Begin pouring 1027	10/27	0740 Mostly cloudy cutting dry spot	POD; will begin Saw cutting at 2-66 Slab. The slab has been completely cleared of stored surplus, will Saw cut entire slab.	
1510	Finished pouring	10/27	0845	Pennhall returned to the site currently setting up @ 2-66. Gelander laying out Saw cuts.	
1600	End shift,		Pennhall Brian Craig Toby Date Time Clear	Pennhall will begin interior cuts.	
	Prepare daily progress form.		Pennhall Brian Craig Toby Date Time Clear	Begin Saw cutting.	

(35)

Carbide Removal 2-605
013-1646-009.500.04

11/21/09
MSL

Saw cut 2-66

15
11/3/09

8

7

20

40

97

95

10

8

5

40.5

40.5

15

20

96.1

24

51

51

94

94

5

10

56

56

10

29

12

7

10

10

15

30

Total length saw cut
266 11/3/09
1242'

(36)

Carbide Removal 2-605
013-1646-009.500.04

11/21/09
MSL

1700

Pentall continuing to
saw cut 2-66 Slab.

Glacier continuing to

lay out saw cut lines,
vacuum & wash slurry
up after cutting is
complete. Slurry vacuum
directly into 55 gal drums.

Cloudy, breezy
40°F @ 1400

1415

Glacier has been
preparing 2-63 Slab for
saw cutting. Removing
soil and ceiling blocks
from along joint.

Note! I was informed
this morning that Boeing
has authorized backfilling
the joints in the 2-66
and 2-65 slabs with
concrete instead of CPF.

~~1500 while setting to~~

<p>2-60 Slabs Calk Removal 013-1646, 009, 500, 04</p>	<p>11/2/04</p>	<p>Calk Removal 013-1646, 009, 500, 04</p>	<p>38</p>
<p>1440 Penhall is moving completion of saw cutting on the 2-66 slabs.</p>	<p>11/2/04</p>	<p>0715</p>	<p>38</p>
<p>1500 while setting up to make the last 7 10' cut on the 2-66 slab the anchor on miss the one of the saws broke and the wheel came off and rolled at high speed away from the saw (2 7/8" blade), the saw was at about 2500 rpm. No injuries</p>	<p>11/2/04</p>	<p>0735</p>	<p>38</p>
<p>1600 Prior to removing the broken saw from the site it was disconnected using Kapson</p>	<p>11/2/04</p>	<p>0850</p>	<p>38</p>
<p>1600 Depart site</p>	<p>11/2/04</p>	<p>1040</p>	<p>38</p>

Edmond
Almon
Hito
Shum

Edmond
Almon
Hito
Shum

Edmond
Almon
Hito
Shum

Edmond
Almon
Hito
Shum

0950 Penhall has completed final cut at 2-66 slabs. They have moved to 2-63 and is currently sawcutting (2 280' total). Glaciers supporting saw cutting (vacuum / bashing slabs) and laying out saw cuts on 2-65 slabs

1040 Set up for drum sampling

42

260 Slabs Chalk Remnant
013-1646,009,500,04

11/29/64
NSL

1425

2nd Cement truck arrived
Begin pouring @ 2-66

1500

Moved to 2-62 to place
remaining half load.

Concrete was used at 2-62
because of additional volume

1530

Completed pouring for the
day.

Genl. Mr. Joint Remnant today
2-66 547 16 daily total
54

Cement poured

2-66 547 16 541

2-62 445 18 113

662 16 daily total

1600

End of shift

1630

Done for the day

46

260 Slabs Chalk Remnant

013-1646,009,500,04

11/29/64

NSL

0715

Arrive on site

0730

Daily Safety Briefing

0745

POD Remove interior
joints @ 2-65 due
to forecast for rain
to begin at mid day.

0745

Begin removing interior
joints at S. end of 2-65.

Per J. Parsons the trench
will be backfilled with
concrete instead of CDF
because of continued use
of the slab for parking
vehicles, trailers and
roll off containers.

0755

Note: observed that the
concrete poured yesterday
at the 2-66 slab has
gained enough strength
for fork lift traffic, will
reopen the area later today

0800

Reopening the area later today

0815

Reopening the area later today

(47)	2-60 Slabs Calk Removal 013-1646.009, 500.04	11/5/09 MSL
0945	Have inventoried and checked drums and labels.	
1050	Begin setup of additional drum sampling.	
1130	rain begins	
1145	Steady rain begins Placer completed remaining calk joints along column lines concrete scheduled for 1200.	
1207	beginner preparing to pump any water from trenching as necessary.	
1212	Concrete arrives Begin pouring at south end progress within	
1244	Glacier reclaiming standing water from SWM area @ East side of slab	

(48)	2-60 Slabs Calk Removal 013-1646.009, 500.04	11/5/09 MSL
2-6.3	Joint removed, poured	
4	not poured	
49	poured	
8	poured water	
44	440	
36	36	
42	42	
29	29	
71	71	
320	320	
20	20	
22	22	
29	29	
71	71	

49	2-60 Slabs CanK Removal 013-1646-009, 500.04	11/5/09 MSL	2-60 Slabs CanK Removal 013-1646-009, 500.04
	Very little run off flowing into open trenches.	17 3/5	Report for lab. Here put samples.
1320	Done pouring Ticket vol, mix 249792 10cy 3310	1810	Done for the day
1350	Glacier has cordoned off perimeter stem walls at the N. end of 266 Slabs. The interior of the slab is ready to re-opened for general use		<u>Digity Totals</u> Joint Removal 328 1P Concrete Poured 2-65 316 1P
1530	Begin Sampling Drains		

	2-60 Slabs CanK Removal 013-1646-009, 500.04	11/5/09 MSL	2-60 Slabs CanK Removal 013-1646-009, 500.04
	Very little run off flowing into open trenches.		
1320	Done pouring Ticket vol, mix 249792 10cy 3310		
1350	Glacier has cordoned off perimeter stem walls at the N. end of 266 Slabs. The interior of the slab is ready to re-opened for general use		
1530	Begin Sampling Drains		
	2-60-Z900702-L 11/5/09 1603		
	2-60-Z900702-S 11/5/09 1614		
	2-60-Z900705-L 11/5 1637		
	2-60-Z900705-S 11/5 1648		
	2-60-Z900706-L 11/5 1713		
	2-60-Z900706-S 11/5 1725		

11/6/09	2-60 Slabs Cast - Remains	52
MSL	013-16461009, 500, 04	
0805	Begin remaining the inside section of interior stem wall in the 2-63 staff slab. using excavator. This section was seen cut previously saw cut.	
INTERMITTENT AM SHOWERS 520F SW WIND	Note: all concrete remains along with soil and caulk joints are being placed in double lined roll off.	
	currently hauling to 5721	
0917	Receiving two additional roll offs 5424, 5422	
	Note: Exclusion Zones have been set up enclosing all work areas until backfilling at the trenches was complete and had adequately set up.	

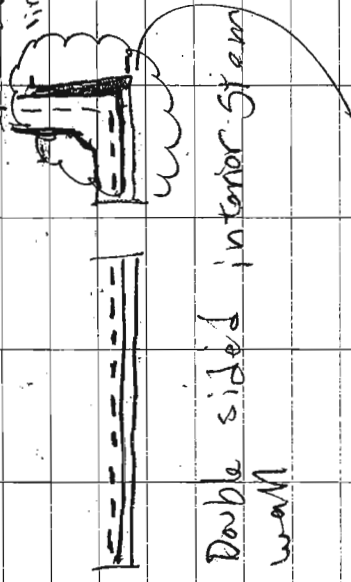
11/6/09	2-60 Slabs Cast - Remains	52
MSL	013-16461009, 500, 04	
0725	Arrive on site observe that two additional roll off being delivered unloading on 2-65 slab 5424, 5411.	
SHOWERS, HARBRECK 520F	Note: The roll off have double plastic liners installed upon delivery	
0745	Safety briefing	
GLASSIER ALAN HALL CLAY PIERCE SHOWERS	POD, a breaker head will be delivered this morning to be used in areas not that were not accessible to the saw cut. Will start off at the 2-63 slab area there is one 1' gap area that was saw cut.	
GEORGE LUMPKIN FLECHARY	Observe that the concrete pour yesterday on the 2-65 slab has begun to gain strength and can be driven on.	

(53)

2-60 Slabs Calk Removal
013-1646.009, 500.04 MSK

2-63 Calk Joint Removal

21 ft
10 ft
Steam
lines



1043 While removing the Calk joint at the eastern end of the 'L' shaped area in the 2-63 Slab water began flowing into the under trench from under the slab causing wet "sandy" soil conditions.

(54)

2-60 Slabs Calk Removal
013-1646.009, 500.04

Gladden will over-excavate the soil to attempt to remove most of the muck. The wall then place ~~over~~ gravel a few inches of gravel in the excavation to construct a base for concrete.

Dismissed w/ Alan Hall (Gladden), Joe Fahrely (Boring) and Scott Matthews (Graben).

we will only prepare this section of trench today and pour concrete. The forecast is for wet weather over the week end.

(57)	2-60 Slabs Calk Removal 013-1646-009, 500, 04	11/16/07 MSL	2-60 Slabs Calk Removal 013-1646-900, 500, 04	(58)
1320	6:45 AM begins securing exclusion zone barriers and caution tape, placing plastic		Arrive on site prepare to sample drums	
1400	6:45 AM departs site		Daily Safety briefing	
1445	Joint Removal 2-63 220 LF	cloudy, 46°F calm, showers	POD: Use excavator mounted concrete breaker to break calk joints that were not accessible to the same be saw cut. Will start at the 2-66 slab.	
	Concrete panel 2-63 224 LF BCY	0815	Begin breaking concrete 2-66 slab	
1645	Departs site	0820 rain begins	Have been preparing to sample drums	
		0830 verify that all areas of remaining calk joints have been removed.		

(59)

1115

2-60 Slabs Castk Removal
013-1646,009, 500,04

Glacier begins remarks
castk joint. 75 ft the
S. end of 2-66 interior
joints that have been
Saw cut.

Regin Samplings drums

NS/MSD 2-60-2900905-L 1127

2-60-2900906-S 1139

2-60-2900707-L 1159

2-60-2900707-S 1207

Equipment Blank 1240

2-60-2900887-L 1314 trench water

1405 Completed Dam Sampling

Glacier has continued to remove
concrete joints that were
broken up this morning.
Covering trenches with
plastic sheeting after completing
removing castk joint. They
have also covered catch

266

11/9/09

MSL

2-60 Slabs Castk Removal
013-1646,009, 500,04

beginns with plastic sheeting
prior to beginning joint
removal.

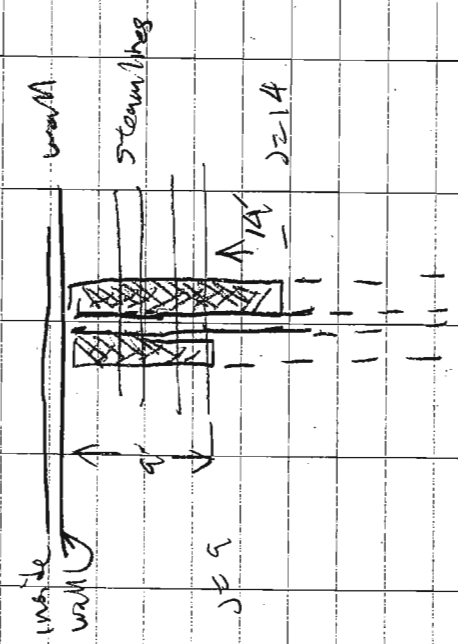
(60)

(63)

2-60 Slabs Cautk Removal
013-1646-009, 500.04

11/9/09
MSL

2-63 Concrete Beams



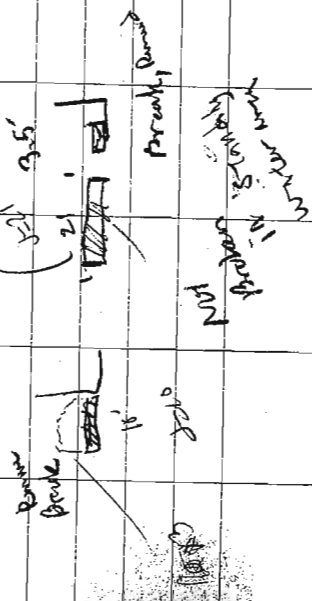
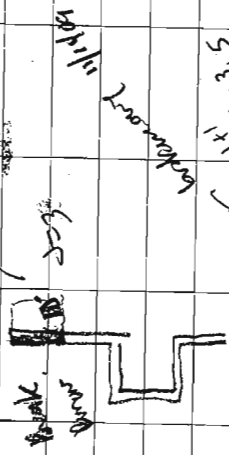
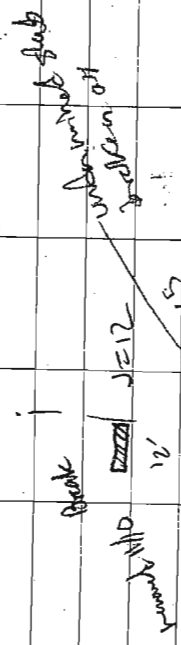
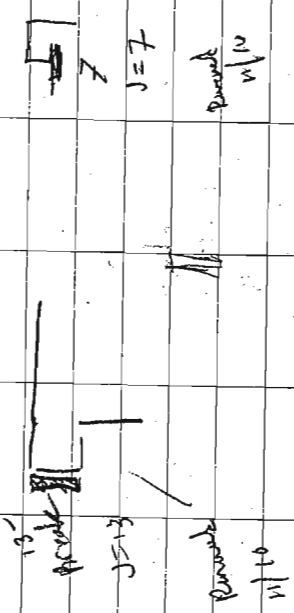
Remarks:
Remains 1/2 poured

(64)

2-60 Slabs Cautk Removal
013-1646-009, 500.04

11/9/09
MSL

2-62 Concrete Beams



(69)

2-60 slabs
013-1646.009.500.04

Caulk Removal

11/9/09

MSL

1540

Glacier begins shutting down for the day

1600

End of shift.
all trenches where caulk was removed today were covered with plastic sheeting

Daily TotalsTrench Breaking

2-66 ? 219
2-65 128
2-63 23
2-62 42
Total 411

Caulk Removal

2-66 ~~2544~~ 245 12
2-65 ~~244~~ 10 18
total 2834 3008

Report for Lab

1640

(66)

2-605 Slabs Caulk Removal
013-1646.009.500.04

0750

Arrive on site

Glacier has completed Daily Safety briefing and discussed P.D.

We will continue removing caulk correct along joints broken out yesterday

Remaining one section along north edge of 2-66 not completed yesterday

Glacier has moved to 2-65 Slab. See page 62

Have completed removing joints from 2-65 & 2-63. Currently working 2-62

Refer to pages 61-64 for sketches and footages

1610

MSL

1020

Glacier
A. Ham
S. Ham
C. Ham
D. Ham
E. Ham
F. Ham
G. Ham
H. Ham
I. Ham
J. Ham
K. Ham
L. Ham
M. Ham
N. Ham
O. Ham
P. Ham
Q. Ham
R. Ham
S. Ham
T. Ham
U. Ham
V. Ham
W. Ham
X. Ham
Y. Ham
Z. Ham

Glacier
A. Ham
S. Ham
C. Ham
D. Ham
E. Ham
F. Ham
G. Ham
H. Ham
I. Ham
J. Ham
K. Ham
L. Ham
M. Ham
N. Ham
O. Ham
P. Ham
Q. Ham
R. Ham
S. Ham
T. Ham
U. Ham
V. Ham
W. Ham
X. Ham
Y. Ham
Z. Ham

Glacier
A. Ham
S. Ham
C. Ham
D. Ham
E. Ham
F. Ham
G. Ham
H. Ham
I. Ham
J. Ham
K. Ham
L. Ham
M. Ham
N. Ham
O. Ham
P. Ham
Q. Ham
R. Ham
S. Ham
T. Ham
U. Ham
V. Ham
W. Ham
X. Ham
Y. Ham
Z. Ham

(67)	2-60 slabs Calk Removal 013-1646:009, 500.04	11/10/04 MSL	11/11/04 MSL	2-60 slabs Calk Removal 013-1646:009, 500.04	(68)
1200	Glacier completed areas at joint wrapping and scabbling along scan with 1/2" fence cut	removal	0710	Arrive on site Daily Safety Briefing POD: complete handle removal of calk residue place concrete	Daily Safety Briefing POD: complete handle removal of calk residue place concrete
1230			0730		
1420	Glacier continuing prep of schedules for concrete pour. Concrete is scheduled for 0800 tomorrow.	prop of schedules for concrete pour. Concrete is scheduled for 0800 tomorrow.	0900-1000. 21 loads ordered	Concrete scheduled between 0900-1000. 21 loads ordered	Concrete scheduled between 0900-1000. 21 loads ordered
1445	Completed 2nd hand work move to 265 Sub	hand work	0830	Glacier has completed hand work @ 265 currently a N. end 263. pumping water from both trenches.	Glacier has completed hand work @ 265 currently a N. end 263. pumping water from both trenches.
1630	Depart site	Depart site			
			Lumpkin Glacier	0920	Glacier completed hand work at 263 and 265. Currently remaining plastic sheeting from 265, 2-66 slab areas in preparation of concrete.
				I verified that residual calk had been removed and a minimum of 2" of concrete	I verified that residual calk had been removed and a minimum of 2" of concrete

(69)

2-60 Cantk Removal
013-1646.009, 500.024

12-0010

Note: Alan Hall (Golanter) informed me that J. Parsons (Boeing) instructed him to dispose of the drum ~~content~~ containing paint chips (Z 900871) into an available roll off (5411, Z900911) to be disposed of.

12-0010

Concrete has been delayed until 1100. Golanter begins site clean up.

1008

Began pouring 2x66 slab

1115

Panel pouring 1st load 10cy 296438 3310

1205

2nd load arrives begin pouring. Continue 2-66

1230

Completed pouring 2-66, max to 2-65.

1300

11/11/09
MSL

2-60 Slabs Cantk Removal
013-1646.009, 500.024

(70)

2-66 slab
Concrete pour

11/11/09
MSL

2-66 slab
Concrete pour

11/11/09
MSL

2-66 slab
Concrete pour

11/11/09
MSL

2-66 slab
Concrete pour

11/11/09
MSL

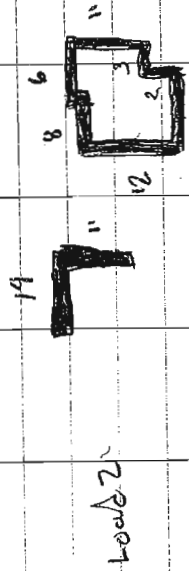
2-66 slab
Concrete pour

11/11/09
MSL

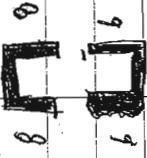
(69)

2-60 slabs Carlk Removal
013-1646.009, 500.009

2-65 Slab
concrete part



Load 2

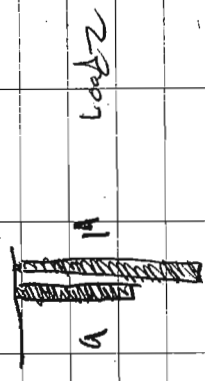


11/11/09
MSL

2-60 Carlk Removal
013-1646-009, 500.009

2-63 Slab
concrete part

1335 Begin pouring 2-63



520T calm
clear

1004 296770 3310

finish load 2

1245
142
1425

2nd load of concrete
arrives

part remaining
at 262 slab

⑦

2-60 Slab3 Carl K. Remer
013-1646-009:500.64

11/11/09
MSL

292

Concrete power

127

7

2

2

proposed
plans

0.0

22

△

1

[illegible]

100

5

1

1

4

1

www.elsevier.com

26 cy concrete

Date	2-60 Sticks	Cable	Remarks
11/11/09			

013-1646209, 500.04

msl

1445

Finished 3rd and 4th lead.

5

296A610 3310

150

Schaefer starts cleanup.

1600

End of shift

Purity Totals

CallK	Removal
2-62	23 18

Concrete pass	318 LF
2166	

265	141	10
-----	-----	----

263	2314
-----	------

2915	262
------	-----

31/10/25

27

(73)	2-60 Slabs Calk Removal 013-1646,009,500,04	11/12/09 MSL	11/12/09 MSL	2-60 Slabs Calk Removal 013-1646,009,500,04	(74)
0710	Arrive at site		1300	While walking to job to verify that everything had been completed, # discovered a joint on the 2-62 slab that had not been removed. It had been overlooked during layout. Gilster will return tomorrow to finish removing and filling the joint.	
0730	Daily Survey			work on as-built drawing.	
0935	Decommission Sampling PUB	per J. Parsons		Depart site	
Clear, cool	Metals VOC	Trip blanks	1630	Nine slabs removed today	
Clear, cool	Sample each down			Z900872 Z900882 Z900886	
0943	Have walked the slabs to verify that all area to be removed have been			Z900873 Z900883	
Gilster A. Ham S. Talbot	Gilster has been securing equipment, moving remaining drums to storage inside 2-44 Bldg.			Z900875 Z900884 Z900885	
Gilster A. Ham S. Talbot	Currently sweeping loose pieces of old calk from slab at west side of 2-66 2-62 slabs			Z900874 previously disposed 11/11/09	

75

2-60 Slabs Calk Removed
013-1646, 008, 500, 04

11/13/09

MSL

0705 Arrive on site

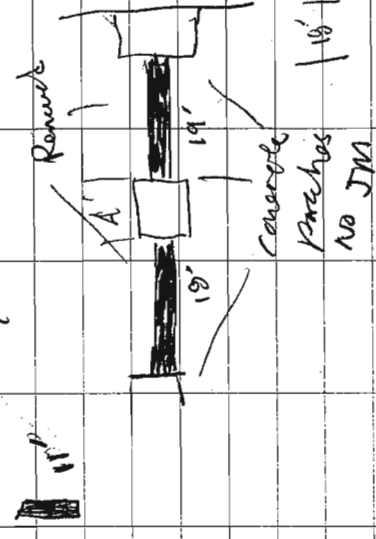
0720 Gelacur on site

0730 Prelim Safety Briefing

0800 Gelacur will remove the final joint at 2-66. Will use a breaker to remove concrete/calk.

0830 Gelacur has begun removing breaking and removing concrete/calk

Gelacur
5. Tables



Gelacur
Lumpkin

76

2-60 Slabs Calk Remove
013-1646, 009, 500, 04

11/13/09

MSL

1010 Concrete arrives

Gelacur has completed removing concrete/calk.

Unsure that all calk is removed

304 296874 3310

Completed pour.

Gelacur begins re-deck of equipment site today

Final pickup of supplies equipment.

Gelacur departs

work on as-built & quantity Tables.

1100

(7.7)

2-60 Calk Removal
013-1646,000, 500, 04

MSL

1st Blank

11/14/04

MSL

2-60 Calk Removal
013-1646,000, 500, 04

(7.8)

Drums still in 2-44

2900087 Trunk water 10/29 262

2900913 Drum water 11/12
2900988 10/29

290707 Slurry 11/3 263

2900906 Slurry 11/3 265
2908907 " 11/3 265
2900908 " 11/3 265

2900702 " 11/2 2-66
703 " 11/2 2-66
704 " 11/2 2-66
705 " 11/2 266/268
706 " 11/2 266

(79)

2-60s Calks Replaced
013-1646.009, 500.04

11/23/09

MSL

Decon water in trench
water drum sampling

2-60-2900888-L 0810

Decon water PCB, VOCs, metals

2-60-2900913-L 0850

Decon water PCB, VOCs, metals

2-60-2900912-L 0950

Trench water PCBs, metals, pH

Sampling at ~~two~~ required
drums is now complete.

J. Parsons was at the drum
storage area in 2-44 1611g
bonding drums in preparation
of removal to drum yards.